

**TENNESSEE AIR POLLUTION CONTROL BOARD
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243-1531**



Significant Modification to

OPERATING PERMIT (TITLE V) Issued Pursuant to Tennessee Air Quality Act

This permit fulfills the requirements of Title V of the Federal Clean Air Act (42 U.S.C. 7661a-7661e) and the federal regulations promulgated thereunder at 40 CFR Part 70. (FR Vol. 57, No. 140, Tuesday, July 21, 1992 p.32295-32312). This permit is issued in accordance with the provisions of paragraph 1200-3-9-.02(11) of the Tennessee Air Pollution Control Regulations. The permittee has been granted permission to operate an air contaminant source in accordance with emissions limitations and monitoring requirements set forth herein.

Date Issued: **Xxxxx XX, 2006**

Permit Number: **548092**

Date Expires: **May 27, 2007**

Issued To:
Saturn Corporation

Installation Address:
**Highway 31 South
Spring Hill, Tennessee 37174**

Installation Description:
Refer to Section E

Emission Source Reference No.: **60 - 0132**

Renewal Application Due Date: **Between August 30, 2006 and November 28, 2006**

Primary SIC:

Responsible Official:
Name: **Harvey G. Thomas**
Title: **Site Manager, Saturn-Spring Hill**

Facility Contact Person:
Name: **Shari Meghreblian**
Title: **Environmental Manager,
Saturn-Spring Hill**
Phone: **(931) 489-4839**

Information Relied Upon:
State of Tennessee Title V Major Source Operating Permit Application Revision No. 2 dated May 2005; Revised Title V Major Source Operating Permit No. 54809 issued May 28, 2002; and Permit No. 952233 issued to Saturn on June 6, 2000.

TECHNICAL SECRETARY

No Authority is Granted by this Permit to Operate, Construct, or Maintain any Installation in Violation of any Law, Statute, Code, Ordinance, Rule, or Regulation of the State of Tennessee or any of its Political Subdivisions.

POST OR FILE AT INSTALLATION ADDRESS

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END OF PERMIT NUMBER

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ATTACHMENT 4 – Summary of Non-applicable Air Quality Related Requirements

SECTION A

GENERAL PERMIT CONDITIONS

A permit issued under the provisions of paragraph 1200-3-9-.02(11) is a permit issued pursuant to the requirements of title V of the Federal Act and its implementing Federal regulations promulgated at 40 CFR, Part 70.

- A1. Definitions.** Terms not otherwise defined in the permit shall have the meaning assigned to such terms in the referenced regulation.

TAPCR 1200-3

- A2. Compliance requirement.** All terms and conditions in a permit issued pursuant to paragraph 1200-3-9-.02(11) including any provisions designed to limit a source's potential to emit, are enforceable by the Administrator and citizens under the Federal Act. The permittee shall comply with all conditions of its permit. Except for requirements specifically designated herein as not being federally enforceable (State Only), non-compliance with the permit requirements is a violation of the Federal Act and the Tennessee Air Quality Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. Non-compliance with permit conditions specifically designated herein as not being federally enforceable (State Only) is a violation of the Tennessee Air Quality Act and may be grounds for these actions.

TAPCR 1200-3-9-.02(11)(e)2(i) and 1200-3-9-.02(11)(e)1(vi)(I)

- A3. Need to halt or reduce activity.** The need to halt or reduce activity is not a defense for noncompliance. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. However, nothing in this item shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations.

TAPCR 1200-3-9-.02(11)(e)1(vi)(II)

- A4. The permit.** The permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. This permit supersedes any previous permits for sources included in the Title V application.

TAPCR 1200-3-9-.02(11)(e)1(vi)(III)

- A5. Property rights.** The permit does not convey any property rights of any sort, or any exclusive privilege.

TAPCR 1200-3-9-.02(11)(e)1(vi)(IV)

- A6. Submittal of requested information.** The permittee shall furnish to the Technical Secretary, within a reasonable time, any information that the Technical Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or termination of the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Technical Secretary copies of records required to be kept by the permit. If the permittee claims that such information is confidential, the Technical Secretary may review that claim and hold the information in protected status until such time that the Board can hear any contested proceedings regarding confidentiality disputes. If the information is desired by the United States Environmental Protection Agency (EPA), the permittee may mail the information directly to EPA. Any claims of confidentiality for federal purposes will be determined by EPA.

TAPCR 1200-3-9-.02(11)(e)1(vi)(V)

- A7. Severability clause.** The requirements of this permit are severable. A dispute regarding one or more requirements of this permit does not invalidate or otherwise excuse the permittee from their duty to comply with the remaining portion of the permit.

TAPCR 1200-3-9.02(11)(e)1(v)

A8. Fee payment.

(a) The permittee shall pay an annual major source emission fee based upon the responsible official's choice of actual emissions or allowable emissions. An emission cap of 4,000 tons per year per regulated pollutant per major source SIC Code shall apply to actual or allowable based emission fees. A major source annual emission fee will not be charged for emissions in excess of the cap (s) or for carbon monoxide.

(b) Major sources who have filed a timely, complete operating permit application in accordance with 1200-3-9-.02(11), shall pay allowable emission based fees until the beginning of the next annual accounting period following receipt of their major source operating permit. At that time, the permittee shall begin paying their annual emission fee based upon their choice of actual or allowable based fees, or mixed actual and allowable based fees as stated under SECTION E of this permit. Once permitted, altering the existing choice shall be accomplished by a written request of the major source, filed in the office of the Technical Secretary at least one hundred eighty days prior to the expiration or reissuance of the major source operating permit.

(c) Major sources must conform to the following requirements with respect to fee payments:

1. If a major source choosing an allowable based annual emission fee wishes to restructure its allowable emissions for the purposes of lowering its annual emission fees, a mutually agreed upon, more restrictive regulatory requirement may be established to minimize the allowable emissions and thus the annual emission fee. The more restrictive requirement must be specified on the permit, and must include the method used to determine compliance with the limitation. The documentation procedure to be followed by the major source must also be included to insure that the limit is not exceeded. Restructuring the allowable emissions is permissible only in the annual accounting periods of eligibility and only, if the written request for restructuring is filed with the Technical Secretary at least 120 days prior to the beginning of the annual accounting period of eligibility. These periods of eligibility occur upon expiration of the initial major source operating permit, renewal of an expired major source operating permit or reissuance of a major source operating permit.

2. Beginning with the annual accounting period beginning July 1, 1997 to June 30, 1998, major sources paying on allowable based emission fees will be billed by the Division no later than April 1 prior to the end of the accounting period. The major source annual emission fee is due July 1 following the end of the accounting period.

3. Beginning with the annual accounting period beginning July 1, 1997 to June 30, 1998, major sources choosing an actual based annual emission fee shall file an actual emissions analysis with the Technical Secretary which summarizes the actual emissions of all regulated pollutants at the air contaminant sources of their facility. Based upon the actual emissions analysis, the source shall calculate the fee due and submit the payment and the analysis each July 1st following the end of the annual accounting period.

4. Beginning with the annual accounting period beginning July 1, 1997 to June 30, 1998, major sources choosing a mixture of allowable and actual based emission fees shall file an actual emissions and allowable emissions analysis with the Technical Secretary which summarizes the actual and allowable emissions of all regulated pollutants at the air contaminant sources of their facility. Based upon the analysis, the source shall calculate the fee due and submit the payment and the analysis each July 1st following the end of the annual accounting period.

The mixed based fee shall be calculated utilizing the 4,000 ton cap specified in subparagraph 1200-3-26-.02(2)(i). In determining the tonnages to be applied toward the regulated pollutant 4,000 ton cap in a mixed based fee, the source shall first calculate the actual emission based fees for a regulated pollutant and apply that tonnage toward the regulated pollutant's cap. The remaining tonnage available in the 4,000 ton category of a regulated pollutant shall be subject to allowable emission based fee calculations for the sources that were not included in the actual emission based fee calculations. Once the 4,000 ton cap has been reached for a regulated pollutant, no additional fee shall be required.

5. Major sources choosing to pay their major source annual emission fee based on actual based emissions or a mixture of allowable and actual based emissions may request an extension of time to file their emissions analysis with the Technical Secretary. The extension may be granted by the Technical Secretary up to ninety (90) days. The request for extension must be postmarked no later than July 1 or the request for extension shall be denied. The request for extension to file must state the reason and give an adequate explanation.

An estimated annual emission fee payment of no less than eighty percent (80%) of the fee due July 1 must accompany the request for extension to avoid penalties and interest on the underpayment of the annual emission fee. A remaining balance due must accompany the emission analysis. If there has been an overpayment, a refund may be requested in writing to the Division or be applied as a credit toward next year's major source annual emission fee. The request for extension of time is not available to major sources choosing to pay their major source annual emission fee based on allowable emissions.

6. Newly constructed major sources or minor existing sources modifying their operations such that they become a major source in the midst of the standard July 1st to June 30th annual accounting period, shall pay allowable based annual emission fees for the fractional remainder of the annual accounting period commencing upon their start-up. At the beginning of the next annual accounting period, the "responsible official" of the source may choose to pay annual emission fees based on actual or allowable emissions or a mixture of the two as provided for in this rule 1200-3-26-.02.

(d) Where more than one (1) allowable emission limit is applicable to a regulated pollutant, the allowable emissions for the regulated pollutants shall not be double counted. Major sources subject to the provisions of paragraph 1200-3-26-.02(9) shall apportion their emissions as follows to ensure that their fees are not double counted.

1. Sources that are subject to federally promulgated hazardous air pollutant standards that can be imposed under Chapter 1200-3-11 or Chapter 1200-3-31 will place such regulated emissions in the specific hazardous air pollutant under regulation. If the pollutant is also in the family of volatile organic compounds or the family of particulates, the pollutant shall not be placed in that respective family category.

2. A miscellaneous category of hazardous air pollutants shall be used for hazardous air pollutants listed at part 1200-3-26-.02(2)(i)12 that do not have an allowable emission standard. A pollutant placed in this category shall not be subject to being placed in any other category such as volatile organic compounds or particulates.

3. Each individual hazardous air pollutant and the miscellaneous category of hazardous air pollutants are subject to the 4,000 ton cap provisions of subparagraph 1200-3-26-.02(2)(i).

4. Major sources that wish to pay annual emission fees for PM₁₀ on an allowable emission basis may do so if they have a specific PM₁₀ allowable emission standard. If a major source has a total particulate emission standard, but wishes to pay annual emission fees on an actual PM₁₀ emission basis, it may do so if the PM₁₀ actual emission levels are proven to the satisfaction of the Technical Secretary. The method to demonstrate the actual PM₁₀ emission levels must be made as part of the source's major source operating permit in advance in order to exercise this option. The PM₁₀ emissions reported under these options shall not be subject to fees under the family of particulate emissions. The 4,000 ton cap provisions of subparagraph 1200-3-26-.02(2)(i) shall also apply to PM₁₀ emissions.

TAPCR 1200-3-26-.02 (3) and (9) and 1200-3-9-.02(11)(e)1(vii)

A9. Permit revision not required. A permit revision will not be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or process for changes that are provided for in the permit.

TAPCR 1200-3-9-.02(11)(e)1(viii)

A10. Inspection and entry. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Technical Secretary or his authorized representative to perform the following for the purposes of determining compliance with the permit applicable requirements:

(a) Enter upon, at reasonable times, the permittee's premises where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

(c) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

(d) As authorized by the Clean Air Act and Chapter 1200-3-10 of TAPCR, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(e) "Reasonable times" shall be considered to be customary business hours unless reasonable cause exists to suspect noncompliance with the Act, Division 1200-3 or any permit issued pursuant thereto and the Technical Secretary specifically authorizes an inspector to inspect a facility at any other time.

TAPCR 1200-3-9-.02(11)(e)3.(ii)

A11. Permit shield.

- (a) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date of permit issuance, provided that:
1. Such applicable requirements are included and are specifically identified in the permit; or
 2. The Technical Secretary, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof. The requirements identified in Attachment 4 have been determined by the Technical Secretary to be not applicable to the Saturn facility.
- (b) Nothing in this permit shall alter or affect the following:
1. The provisions of section 303 of the Federal Act (emergency orders), including the authority of the Administrator under that section. Similarly, the provisions of T.C.A. §68-201-109 (emergency orders) including the authority of the Governor under the section;
 2. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
 3. The applicable requirements of the acid rain program, consistent with section 408(a) of the Federal Act; or
 4. The ability of EPA to obtain information from a source pursuant to section 114 of the Federal Act.
- (c) Permit shield is granted to the permittee.

A12. Permit renewal and expiration.

- (a) Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted at least 180 days, but no more than 270 days prior to the expiration of this permit.
- (b) Provided that the permittee submits a timely and complete application for permit renewal the source will not be considered in violation of paragraph 1200-3-9-.02(11) until the Technical Secretary takes final action on the permit application, except as otherwise noted in paragraph 1200-3-9-.02(11).
- (c) This permit, its shield provided in Condition A11, and its conditions will be extended and effective after its expiration date provided that the source has submitted a timely, complete renewal application to the Technical Secretary.

TAPCR 1200-3-9-.02(11)(f)3 and 2, 1200-3-9-.02(11)(d)1(i)(III), and 1200-3-9-.02(11)(a)2

A13. Reopening for cause.

- (a) A permit shall be reopened and revised prior to the expiration of the permit under any of the circumstances listed below:
1. Additional applicable requirements under the Federal Act become applicable to the sources contained in this permit provided the permit has a remaining term of 3 or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the permit expiration date of this permit, unless the original has been extended pursuant to 1200-3-9-.02(11)(a)2.
 2. Additional requirements become applicable to an affected source under the acid rain program.
 3. The Technical Secretary or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 4. The Technical Secretary or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
- (b) Proceedings to reopen and issue a permit shall follow the same proceedings as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists, and not the entire permit. Such reopening shall be made as expeditiously as practicable.
- (c) Reopenings for cause shall not be initiated before a notice of such intent is provided to the permittee by the Technical Secretary at least 30 days in advance of the date that the permit is to be reopened except that the Technical Secretary may provide a shorter time period in the case of an emergency. An emergency shall be established by the criteria of T.C.A. 68-201-109 or other compelling reasons that public welfare is being adversely affected by the operation of a source that is in compliance with its permit requirements.
- (d) If the Administrator finds that cause exists to terminate, modify, or revoke and reissue a permit as identified in A13, he is required under federal rules to notify the Technical Secretary and the permittee of such findings in writing. Upon receipt of such notification, the Technical Secretary shall investigate the matter in order to determine if he agrees or disagrees with the Administrator's findings. If he agrees with the Administrator's findings, the Technical Secretary shall conduct the reopening in the following manner:

1. The Technical Secretary shall, within 90 days after receipt of such notification, forward to EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate. If the Administrator grants additional time to secure permit applications or additional information from the permittee, the Technical Secretary shall have the additional time period added to the standard 90 day time period.
2. EPA will evaluate the Technical Secretary's proposed revisions and respond as to their evaluation.
3. If EPA agrees with the proposed revisions, the Technical Secretary shall proceed with the reopening in the same manner prescribed under Condition A13 (b) and Condition A13 (c).
4. If the Technical Secretary disagrees with either the findings or the Administrator that a permit should be reopened or an objection of the Administrator to a proposed revision to a permit submitted pursuant to Condition A13(d), he shall bring the matter to the Board at its next regularly scheduled meeting for instructions as to how he should proceed. The permittee shall be required to file a written brief expressing their position relative to the Administrator's objection and have a responsible official present at the meeting to answer questions for the Board. If the Board agrees that EPA is wrong in their demand for a permit revision, they shall instruct the Technical Secretary to conform to EPA's demand, but to issue the permit under protest preserving all rights available for litigation against EPA.

TAPCR 1200-3-9-.02(11)(f)6 and 7.

- A14. Permit transference.** An administrative permit amendment allows for a change of ownership or operational control of a source where the Technical Secretary determines that no other change in the permit is necessary, provided that the following requirements are met:
- (a) Transfer of ownership permit application is filed consistent with the provisions of 1200-3-9-.03(6), and
 - (b) written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Technical Secretary.

TAPCR 1200-3-9-.02(11)(f)4(i)(IV) and 1200-3-9-.03(6)

- A15. Air pollution alert.** When the Technical Secretary has declared that an air pollution alert, an air pollution warning, or an air pollution emergency exists, the permittee must follow the requirements for that episode level as outlined in TAPCR 1200-3-9-.03(1) and TAPCR 1200-3-15-.03.

- A16. Construction permit required.** Except as provided for in Permit No. 952233 and Condition E7 herein, exempted in TAPCR 1200-3-9-.04, TAPCR 1200-3-9-.02(11)(f)5, and sources considered insignificant under TAPCR 1200-3-9-.04(5), this facility shall not begin the construction of a new air contaminant source or the modification of an air contaminant source which may result in the discharge of air contaminants without first having applied for and received from the Technical Secretary a construction permit for the construction or modification of such air contaminant source.

TAPCR 1200-3-9-.01(1)(a)

- A17. Notification of changes.** Except as provided for in Permit No. 952233 and Condition E7 herein, the permittee shall notify the Technical Secretary 30 days prior to commencement of any of the following changes to an air contaminant source which would not be a modification requiring a construction permit.
- (a) change in air pollution control equipment
 - (b) change in stack height or diameter
 - (c) change in exit velocity of more than 25 percent or exit temperature of more than 15 percent based on absolute temperature.

TAPCR 1200-3-9-.02(7)

- A18. Schedule of compliance.** The permittee will comply with any applicable requirement that becomes effective during the permit term on a timely basis. If the permittee is not in compliance the permittee must submit a schedule for coming into compliance which must include a schedule of remedial measure(s), including an enforceable set of deadlines for specific actions.

A19. Title VI.

(a) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR, Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:

1. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to Section 82.156.

2. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to Section 82.158.

3. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to Section 82.161.

(b) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone depleting substance refrigerant in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR, Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

(c) The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program(SNAP) promulgated pursuant to 40 CFR, Part 82, Subpart G, Significant New Alternatives Policy Program.

A20. 112(r). The permittee shall comply with the requirement to submit to the Administrator or designated State Agency a risk management plan, including a registration that reflects all covered processes, by June 21, 1999, if the permittee's facility is required pursuant to 40 CFR, 68, to submit such a plan.

SECTION B

GENERAL CONDITIONS for MONITORING, REPORTING, and ENFORCEMENT

- B1. Recordkeeping.** Monitoring and related record keeping shall be performed in accordance with the requirements specified in the permit conditions for each individual permit unit. In no case shall reports of any required monitoring and record keeping be submitted less frequently than at least 180 days.
- (a) Where applicable, records of required monitoring information include the following:
1. The date, place as defined in the permit, and time of sampling or measurements;
 2. The date(s) analyses were performed;
 3. The company or entity that performed the analysis;
 4. The analytical techniques or methods used;
 5. The results of such analyses; and
 6. The operating conditions as existing at the time of sampling or measurement.
- (b) Digital data accumulation which utilizes valid data compression techniques shall be acceptable for compliance determination as long as such compression does not violate an applicable requirement and its use has been approved in advance by the Technical Secretary.
- TAPCR 1200-3-9-.02(11)(e)1(iii)
- B2. Retention of monitoring data.** The permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.
- TAPCR 1200-3-9-.02(11)(e)1(iii)(II)II
- B3. Reporting.** Reports of any required monitoring and record keeping shall be submitted to the Technical Secretary in accordance with the frequencies specified in the permit conditions for each individual permit unit. Reporting periods will be dated from the end of the first complete calendar quarter following issuance of this permit unless otherwise noted. Reports shall be submitted within 60 days of the close of the reporting period unless otherwise noted. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official. Reports required under "State only requirements" are not required to be certified by a responsible official.
- TAPCR 1200-3-9-.02(11)(e)1(iii)
- B4. Certification.** Except for reports required under "State Only" requirements, any application form, report or compliance certification submitted pursuant to the requirements of this permit shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
- TAPCR 1200-3-9-.02(11)(d)4
- B5. Annual compliance certification.** The permittee shall submit annually compliance certifications with terms and conditions contained in this permit, including emission limitations, standards, or work practice. This compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):
- (a) The identification of each term or condition of the permit that is the basis of the certification;
- (b) The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period;
- (c) Whether such method(s) or other means provide continuous or intermittent data. Such methods and other means shall include, at a minimum, the methods and means required by this permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information;
- (d) The status of compliance with the terms and conditions of the permit for the period covered by the certification, based on the method or means designated in B5(b) above. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an *excursion or **exceedance as defined below occurred; and
- (e) Such other facts as the Technical Secretary may require to determine the compliance status of the source.
- *"Excursion" shall mean a departure from an indicator range established for monitoring under this paragraph, consistent with any averaging period specified for averaging the results of the monitoring.

***"Exceedance" shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

40 CFR Part 70.6(c)(5)(iii) as amended in the Federal Register Vol.62, No.204, October 22, 1997, pages 54946 and 54947

B6. Submission of compliance certification.

The Technical Secretary
Division of Air Pollution Control
ATTN: Operating Permits Program
9th Floor, L & C Annex
401 Church Street
Nashville, Tennessee 37243-1531,
TAPCR 1200-3-9-.02(11)(e)3(v)(IV)

The compliance certification shall be submitted to:
and Air and EPCRA Enforcement Branch
US EPA Region IV
61 Forsyth Street, SW
Atlanta, Georgia 30303

B7. Emergency provisions. An emergency constitutes an affirmative defense to an enforcement action brought against this source for noncompliance with a technology based emission limitation due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

(a) The affirmative defense of the emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An emergency occurred and that the permittee can identify the probable cause(s) of the emergency. "Probable" must be supported by a credible investigation into the incident that seeks to identify the causes and results in an explanation supported by generally accepted engineering or scientific principles.

2. The permitted source was at the time being properly operated. In determining whether or not a source was being properly operated, the Technical Secretary shall examine the source's written standard operating procedures which were in effect at the time of the noncompliance and any other code as detailed below that would be relevant to preventing the noncompliance. Adherence to the source's standard operating procedures will be the test of adequate preventative maintenance, careless operation, and improper operation or operator error to the extent that such adherence would prevent noncompliance. The source's failure to follow recognized standards of practice to the extent that adherence to such a standard would have prevented noncompliance will disqualify the source from any claim of an emergency and an affirmative defense.

3. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit.

4. The permittee submitted notice of the emergency to the Technical Secretary according to the notification criteria for malfunctions in rule 1200-3-20-.03. For the purposes of this condition, "emergency" shall be substituted for "malfunction(s)" in rule 1200-3-20-.03 to determine the relevant notification threshold. The notice shall include a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

(b) In any enforcement proceeding the permittee seeking to establish the occurrence of an emergency has the burden of proof.

(c) The provisions of this condition are in addition to any emergency, malfunction or upset requirement contained in Division 1200-3 or other applicable requirement.

TAPCR 1200-3-9-.02(11)(e)7

B8. Excess emissions reporting.

(a) The permittee shall promptly notify the Technical Secretary when any emission source, air pollution control equipment, or related facility breaks down in such a manner to cause the emission of air contaminants in excess of the applicable emission standards contained in Division 1200-3 or any permit issued thereto, or of sufficient duration to cause damage to property or public health. The permittee must provide the Technical Secretary with a statement giving all pertinent facts, including the estimated duration of the breakdown. Violations of the visible emission standard which occur for less than 20 minutes in one day (midnight to midnight) need not be reported. Prompt notification will be within 24 hours of the malfunction and shall be provided by telephone to the Division's Nashville office. The Technical Secretary shall be notified when the condition causing the failure or breakdown has been corrected and the equipment is again in operation. In attainment and unclassified areas if emissions other than from sources designated as significantly impacting on a nonattainment area in excess of the standards will not and do not occur over more than a 24-hour period (or will not recur over more than a 24-hour period) and no damage to property and or public health is anticipated, notification is not required.

(b) Any malfunction that creates an imminent hazard to health must be reported by telephone immediately to the Division's Nashville office and to the State Civil Defense.

(c) A log of all malfunctions, startups, and shutdowns resulting in emissions in excess of the standards in Division 1200-3 or any permit issued thereto must be kept at the plant. All information shall be entered in the log no later than twenty-four (24) hours after the startup or shutdown is complete, or the malfunction has ceased or has been corrected. Any later discovered corrections can be added in the log as footnotes with the reason given for the change. This log must record at least the following:

1. Stack or emission point involved
2. Time malfunction, startup, or shutdown began and/or when first noticed
3. Type of malfunction and/or reason for shutdown
4. Time startup or shutdown was complete or time the air contaminant source returned to normal operation
5. The company employee making entry on the log must sign, date, and indicate the time of each log entry

The information under items 1. and 2. must be entered into the log by the end of the shift during which the malfunction or startup began. For any source utilizing continuous emission(s) monitoring, continuous emission(s) monitoring collection satisfies the above log keeping requirement.

TAPCR 1200-3-20-.03 and .04

B9. Malfunctions, startups and shutdowns - reasonable measures required. The permittee must take all reasonable measures to keep emissions to a minimum during startups, shutdowns, and malfunctions. These measures may include installation and use of alternate control systems, changes in operating methods or procedures, cessation of operation until the process equipment and/or air pollution control equipment is repaired, maintaining sufficient spare parts, use of overtime labor, use of outside consultants and contractors, and other appropriate means. Failures that are caused by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions. This provision does not apply to standards found in 40 CFR, Parts 60(Standards of performance for new stationary sources), 61(National emission standards for hazardous air pollutants) and 63(National emission standards for hazardous air pollutants for source categories).

TAPCR 1200-3-20-.02

B10. Sources located in non-attainment areas or having significant impact on air quality in a non-attainment area. The owner or operator of all sources located in non-attainment areas or having a significant impact on air quality in a non-attainment area (for the pollutant designated) must submit a report to the Technical Secretary within thirty (30) days after the end of each calendar quarter listing the times at which malfunctions, startups and/or shutdowns, which resulted in emissions greater than any applicable emission limits and the estimated amount of emissions discharged during such times. This report shall also include total emissions during the quarter and be reported in a format specified by the Technical Secretary.

TAPCR 1200-3-20-.04(2)

B11. Report required upon the issuance of notice of violation. The permittee must submit within twenty (20) days after receipt of the notice of violation, the data shown below to assist the Technical Secretary in deciding whether to excuse or validate the violation. If this data has previously been available to the Technical Secretary prior to the issuance of the notice of violation no further action is required of the violating source. However, if the source desires to submit additional information, then this must be submitted within the same twenty (20) day time period. The minimum data requirements are:

- (a) The identity of the stack and/or other emission point where the excess emission(s) occurred;
- (b) The magnitude of the excess emissions expressed in pounds per hour and the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;
- (c) The time and duration of the emissions;
- (d) The nature and cause of such emissions;
- (e) For malfunctions, the steps taken to correct the situation and the action taken or planned to prevent the recurrence of such malfunctions;
- (f) The steps taken to limit the excess emissions during the occurrence reported, and
- (g) If applicable, documentation that the air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good operating practices for minimizing emissions.

Failure to submit the required report within the twenty (20) day period specified shall preclude the admissibility of the data for consideration of excusal for malfunctions.

TAPCR 1200-3-20-.06(2),(3) and (4)

SECTION C

PERMIT CHANGES

C1. Changes authorized by Permit No. 952233. Permit No. 952233 issued to Saturn by TDEC on June 6, 2000 includes pre-approved NSR provisions that authorize Saturn to (1) make physical changes or changes in the method of operation to existing sources at the facility and (2) install new sources so long as the Plantwide Applicability Limits (PALs) in E5 are not exceeded. The pre-approved NSR provisions for the facility, identified in this Title V Operating Permit in E7, shall serve as the operable mechanism for facility changes under this Title V Operating permit. All facility changes under E7 shall not be considered modifications under any provision of Title I of the Clean Air Act or Division 1200-3. All facility changes under E7 shall qualify for a permit shield under the provisions of part 1200-3-9-.02(11)(e)6. Facility changes not meeting the E7 criteria shall be initiated by C2 through C7. All facility changes under E7 shall be subject to the Administrative amendment requirements identified in C4. The notification and recordkeeping provisions of C2(d) and (f) do not apply to changes under E7 of this permit.

C2. Operational flexibility changes. The source may make operational flexibility changes that are not addressed or prohibited by the permit without a permit revision subject to the following requirements:

- (a) The change cannot be subject to a requirement of Title IV of the Federal Act or Chapter 1200-3-30.
- (b) The change cannot be a modification under any provision of Title I of the federal Act or Division 1200-3, except as provided in E7.
- (c) Each change shall meet all applicable requirements and shall not violate any existing permit term or condition.
- (d) The source must provide contemporaneous written notice to the Technical Secretary and EPA of each such change, except for changes that are below the threshold of levels that are specified in Rule 1200-3-9-.04.
- (e) The change shall not qualify for a permit shield under the provisions of part 1200-3-9-.02(11)(e)6.
- (f) The permittee shall keep a record describing the changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes. The records shall be retained until the changes are incorporated into subsequently issued permits.

TAPCR 1200-3-9-.02(11)(a)4 (ii)

C3. Section 502(b)(10) changes.

(a) The permittee can make certain changes without requiring a permit revision, if the changes are not modifications under Title I of the Federal Act or Division 1200-3 and the changes do not exceed the emissions allowable under the permit. The permittee must, however, provide the Administrator and Technical Secretary with written notification within a minimum of 7 days in advance of the proposed changes. The Technical Secretary may waive the 7 day advance notice in instances where the source demonstrates in writing that an emergency necessitates the change. Emergency shall be demonstrated by the criteria of TAPCR 1200-3-9-.02(11)(e)7 and in no way shall it include changes solely to take advantages of an unforeseen business opportunity. The Technical Secretary and EPA shall attach each such notice to their copy of the relevant permit.

- (b) The written notification must include the following:
 - 1. brief description of the change within the permitted facility;
 - 2. the date on which the change will occur;
 - 3. a declaration of any change in emissions; and
 - 4. a declaration of any permit term or condition that is no longer applicable as a result of the change.
- (c) The permit shield provisions of TAPCR 1200-3-9-.02(11)(e)6 shall not apply to Section 502(b)(10) changes.

TAPCR 1200-3-9-.02(11)(a)4 (i)

C4. Administrative amendment.

(a) Administrative permit amendments to this permit shall be in accordance with 1200-3-9-.02(11)(f)4. The source may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request.

(b) The permit shield shall be extended as part of an administrative permit amendment revision consistent with the provisions of TAPCR 1200-3-9-.02(11)(e)6 for such revisions made pursuant to item (c) of this condition which meet the relevant requirements of TAPCR 1200-3-9-.02(11)(e), TAPCR 1200-3-9-.02(11)(f) and TAPCR 1200-3-9-.02(11)(g) for significant permit modifications.

(c) Proceedings to review and grant administrative permit amendments shall be limited to only those parts of the permit for which cause to amend exists, and not the entire permit.

TAPCR 1200-3-9-.02(11)(f)4

C5. Minor permit modifications.

- (a) The permittee may submit an application for a minor permit modification in accordance with TAPCR 1200-3-9-.02(11)(f)5(ii).
- (b) The permittee may make the change proposed in its minor permit modification immediately after an application is filed with the Technical Secretary.
- (c) Proceedings to review and modify permits shall be limited to only those parts of the permit for which cause to modify exists, and not the entire permit.
- (d) Minor permit modifications do not qualify for a permit shield.

TAPCR 1200-3-9-.02(11)(f)5(ii)

C6. Significant permit modifications.

- (a) The permittee may submit an application for a significant modification in accordance with TAPCR 1200-3-9-.02(11)(f)5(iv).
- (b) Proceedings to review and modify permits shall be limited to only those parts of the permit for which cause to modify exists, and not the entire permit.

TAPCR 1200-3-9-.02(11)(f)5(iv)

C7. New construction or modifications.

- (a) The permittee shall designate in their construction permit application the route that they desire to follow for the purposes of incorporating the newly constructed or modified sources into their existing operating permit. The Technical Secretary shall use that information to prepare the operating permit application submittal deadlines in their construction permit.
- (b) Sources desiring the permit shield shall choose the administrative amendment route of TAPCR 1200-3-9-.02(11)(f)4 or the significant modification route of TAPCR 1200-3-9-.02(11)(f)5(iv).
- (c) Sources desiring expediency instead of the permit shield shall choose the minor permit modification procedure route of TAPCR 1200-3-9-.02(f)5(ii) or group processing of minor modifications under the provisions of TAPCR 1200-3-9-.02(11)5(iii) as applicable to the magnitude of their construction.

SECTION D

GENERAL APPLICABLE REQUIREMENTS

- D1. Visible emissions.** In absence of a set specific visible emission standard, the permittee shall not cause, suffer, allow or permit discharge of a visible emission from any air contaminant source with an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period; provided, however, that for fuel burning installations with fuel burning equipment of input capacity greater than 600 million Btu per hour, the permittee shall not cause, suffer, allow, or permit discharge of a visible emission from any fuel burning installation with an opacity in excess of twenty (20) percent (6-minute average) except for one six minute period per one (1) hour of not more than forty (40) percent opacity. Sources constructed or modified after July 7, 1992 shall utilize 6-minute averaging. Due allowance may be made for visible emissions in excess of that permitted under TAPCR 1200-3-5 which are necessary or unavoidable due to routine startup and shutdown conditions. The facility shall maintain a continuous, current log of all excess visible emissions showing the time at which such conditions began and ended and that such record shall be available to the Technical Secretary or his representative upon his request.

TAPCR 1200-3-5-.01(1), TAPCR 1200-3-5-.03(6) and TAPCR 1200-3-5-.02(1)

- D2. General provisions and applicability for non-process gaseous emissions.** Any person constructing or otherwise establishing a non-portable air contaminant source emitting gaseous air contaminants after April 3, 1972, or relocating an air contaminant source more than 1.0 km from the previous position after November 6, 1988, shall install and utilize the best equipment and technology currently available for controlling such gaseous emissions.

TAPCR 1200-3-6-.03(2)

- D3. Non-process emission standards.** The permittee shall not cause, suffer, allow, or permit particulate emissions from non-process sources in excess of the standards in TAPCR 1200-3-6. These standards shall be calculated using the equations found at TAPCR 1200-3-6-.02.

- D4. General provisions and applicability for process gaseous emissions.** Any person constructing or otherwise establishing an air contaminant source emitting gaseous air contaminants after April 3, 1972, or relocating an air contaminant source more than 1.0 km from the previous position after November 6, 1988, shall install and utilize equipment and technology which is deemed reasonable and proper by the Technical Secretary.

TAPCR 1200-3-7-.07(2)

- D5. Particulate emissions from process emission sources.** The permittee shall not cause, suffer, allow, or permit particulate emissions from process sources in excess of the standards in TAPCR 1200-3-7.

- D6. Sulfur dioxide emission standards.** The permittee shall not cause, suffer, allow, or permit Sulfur dioxide emissions from process and non-process sources in excess of the standards in TAPCR 1200-3-14. Regardless of the specific emission standard, new process sources shall utilize the best available control technology as deemed appropriate by the Technical Secretary of the Tennessee Air Pollution Control Board.

- D7. Fugitive Dust.**

(a) The permittee shall not cause, suffer, allow, or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, but not be limited to, the following:

1. Use, where possible, of water or chemicals for control of dust in demolition of existing buildings or structures, construction operations, grading of roads, or the clearing of land;
2. Application of asphalt, oil, water, or suitable chemicals on dirt roads, material stock piles, and other surfaces which can create airborne dusts;

3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.

(b) The permittee shall not cause, suffer, allow, or permit fugitive dust to be emitted in such manner to exceed five (5) minutes per hour or twenty (20) minutes per day as to produce a visible emission beyond the property line of the property on which the emission originates excluding malfunctions of equipment as provided in Chapter 1200-3-20.

TAPCR 1200-3-8

D8. Open burning.

(a) The permittee shall not cause, suffer, allow, or permit open burning except as specifically exempted by Rule 1200-3-4-.04, exceptions to prohibition. An exception for one time burning may be applied for through the Regional Field Office and conducted by permission from the Technical Secretary.

(b) Open burning except for the exemptions contained in Rule 1200-3-4-.04 will not be allowed in any area where the open burning would interfere with the attainment or maintenance of the air quality standards.

(c) No open burning permit shall be issued in any non-attainment or additional control area that might be affected by applicable contaminants from such open burning, nor any location within one half (1/2) miles of such a nonattainment or additional control area.

(d) The open burning of tires, vinyl shingles and/or asphalt shingles is expressly prohibited.

TAPCR 1200-3-4

D9. Asbestos. Where applicable, the permittee shall comply with the requirements of 1200-3-11-.02(d) when conducting any renovation or demolition activities at the facility.

TAPCR 1200-3-11-.02(d) and 40 CFR, Part 61

D10. Annual certification of compliance. The generally applicable requirements set forth in Section D of this permit are intended to apply to activities and sources that are not subject to source-specific applicable requirements contained in State of Tennessee and U.S. EPA regulations. By annual certification of compliance, the permittee shall be considered to meet the monitoring and related record keeping and reporting requirements of TAPCR 1200-3-9-.02(11)(e)1.(iii) and 1200-3-10-.04(2)(b)1 and compliance requirements of TAPCR 1200-3-9-.02(11)(e)3.(i). The permittee shall submit compliance certification for these conditions annually.

SECTION E

SOURCE SPECIFIC EMISSION STANDARDS, OPERATING LIMITATIONS, and MONITORING, RECORDKEEPING and REPORTING REQUIREMENTS

Facility Description:

Saturn Corporation facility in Spring Hill Tennessee manufactures vehicles. The facility includes three Business Units: Powertrain, Body Systems, and Vehicle Systems. The Powertrain Business Unit includes an iron foundry, an aluminum foundry, various heat treatment processes, several automated machining lines, and an engine assembly line. The Body Systems Business Unit includes injection molding operations, sheet metal stamping operations, space frame and component fabrication, and painting operations. The Vehicle Systems Business Unit includes injection molding, cockpit assembly, and vehicle assembly operations.

E1. Fee payment: allowable emissions basis.

FEE EMISSIONS SUMMARY TABLE FOR MAJOR SOURCE 60-0132

REGULATED POLLUTANTS	ALLOWABLE EMISSIONS (tons per AAP)	ACTUAL EMISSIONS (tons per AAP)	COMMENTS
PARTICULATE MATTER (PM)	205	N/A	Includes family of particulate matter HAPS without a standard. See notes below.
PM ₁₀	205	N/A	N/A
SO ₂	39	N/A	N/A
VOC	1563	N/A	Includes family of gaseous HAPS without a standard. See notes below.
NO _x	190	N/A	N/A
CATEGORY OF MISCELLANEOUS HAZARDOUS AIR POLLUTANTS (HAP WITHOUT A STANDARD)*			
VOC FAMILY GROUP	N/A	N/A	Fee emissions are included in VOC above. Maximum actual based HAP emissions.
NON-VOC GASEOUS GROUP	N/A	N/A	N/A
PM FAMILY GROUP	N/A	N/A	Fee emissions are included in PM above. Maximum actual based HAP emissions.
CATEGORY OF SPECIFIC HAZARDOUS AIR POLLUTANTS (HAP WITH A STANDARD)**			
VOC FAMILY GROUP	N/A	N/A	N/A
NON-VOC GASEOUS GROUP	N/A	N/A	N/A
PM FAMILY GROUP	N/A	N/A	N/A
CATEGORY OF NSPS POLLUTANTS NOT LISTED ABOVE***			
EACH NSPS POLLUTANT NOT LISTED ABOVE	N/A	N/A	N/A

NOTES

AAP The Annual Accounting Period (AAP) is a twelve (12) consecutive month period that begins each July 1st and ends June 30th of the following year.

N/A N/A indicates that no emissions are specified for fee computation.

AEAR AEAR indicates that an Actual Emissions Analysis is Required to determine the actual emissions of:

- (1) each regulated pollutant (Particulate matter, SO₂, VOC, NO_x and so forth. See TAPCR 1200-3-26-.02(2)(i) for the definition of a regulated pollutant.),
 - (2) each pollutant group (VOC Family, Non-VOC Gaseous, and Particulate Family), and
 - (3) the Miscellaneous HAP Category
- under consideration during the Annual Accounting Period.

- * **Category Of Miscellaneous HAP (HAP Without A Standard):** This category is made-up of hazardous air pollutants that do not have a federal or state standard. Each HAP is classified into one of three groups, the **VOC Family** group, the **Non-VOC Gaseous** group, or the **Particulate (PM) Family** group. **For fee computation**, the **Miscellaneous HAP Category** is subject to the 4,000 ton cap provisions of subparagraph 1200-3-26-.02(2)(i).
- ** **Category Of Specific HAP (HAP With A Standard):** This category is made-up of hazardous air pollutants (HAP) that are subject to Federally promulgated Hazardous Air Pollutant Standards that can be imposed under Chapter 1200-3-11 or Chapter 1200-3-31. Each individual hazardous air pollutant is classified into one of three groups, the **VOC Family** group, the **Non-VOC Gaseous** group, or the **Particulate (PM) Family** group. **For fee computation**, each individual hazardous air pollutant of the **Specific HAP Category** is subject to the 4,000 ton cap provisions of subparagraph 1200-3-26-.02(2)(I).
- *** **Category Of NSPS Pollutants Not Listed Above:** This category is made-up of each New Source Performance Standard (NSPS) pollutant whose emissions are not included in the **PM, SO₂, VOC or NO_x** emissions from each source in this permit. **For fee computation**, each **NSPS pollutant not listed above** is subject to the 4,000 ton cap provisions of subparagraph 1200-3-26-.02(2)(i).

END NOTES

- The permittee shall:
- (1) Pay annual **allowable based emission fees** for the **present Annual Accounting Period**.
 - (2) Pay major source annual **allowable based emission fees**, as requested by the responsible official, in accordance with the above **Fee Emissions Summary Table** beginning July 1, 2002 of the **next annual accounting period**.

The Tennessee Air Pollution Control Division will bill the permittee no later than April 1 prior to the end of each **annual accounting period**. The annual emission fee is due July 1 following the end of each **annual accounting period**. If any part of any fee imposed under TAPCR 1200-3-26-.02 is not paid within fifteen (15) days of the due date, penalties shall at once accrue as specified in TAPCR 1200-3-26-.02(8). Emissions for regulated pollutants shall not be double counted as specified in Condition A8(d) of this permit.

Payment of the fee due shall be submitted to The Technical Secretary at the address in Condition E2-1(b) of this permit.

TAPCR 1200-3-26-.02 (3) and (9), and 1200-3-9-.02(11)(e)1 (iii) and (vii)

E2. **General Facility Conditions**

E2-1. **Reporting requirements.**

(a) **Semiannual reports.** The beginning of the reporting periods shall be October 1, 2002. The first report shall be submitted within 60 days after the end of the first 6-month period following the beginning of the reporting periods. Subsequent reports shall be submitted within 60 days after the end of each 6-month period following the first report. If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

Semiannual reports of this facility (**60-0132**) shall include:

- (1) Any monitoring and recordkeeping required to demonstrate compliance with the limits specified by E5-1, E5-4, E5-6, E5-9, E5-12, and E5-15 of this permit. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.
- (2) Any applicable semiannual reports otherwise required by 40 CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 63 (National Emission Standards for Hazardous Air Pollutants for Source Categories) for which the reporting period begins but does not end during the period from issuance of this permit until the end of the second complete calendar quarter following issuance of this permit, may be submitted as a part of the first semiannual report required by Condition E2-1(a) of this permit which

follows the end of the applicable reporting period. The subsequent semiannual reporting periods may coincide with the semiannual reporting periods required by condition E2-1(a) of this permit. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.

- (3) The visible emission evaluation readings from E16 of this permit if required. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.
- (4) Identification of all instances of deviations from **ALL PERMIT REQUIREMENTS**.

These reports must be certified by a responsible official consistent with condition B4 of this permit and shall be submitted to The Technical Secretary at the address in Condition E2-1(b) of this permit.

TAPCR 1200-3-9-.02(11)(e)1.(iii)

(b) **Annual compliance certification.** The permittee shall submit annually compliance certifications with terms and conditions contained in Sections A, B, D and E of this permit, including emission limitations, standards, or work practices. This compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):

- (1) The identification of each term or condition of the permit that is the basis of the certification;
 - (2) The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period;
 - (3) Whether such method(s) or other means provide continuous or intermittent data. Such methods and other means shall include, at a minimum, the methods and means required by this permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information;
 - (4) The status of compliance with the terms and conditions of the permit for the period covered by the certification, based on the method or means designated in E2-1(b)2 above. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an *excursion or **exceedance as defined below occurred; and
 - (5) Such other facts as the Technical Secretary may require to determine the compliance status of the source.
- *"Excursion" shall mean a departure from an indicator range established for monitoring under this paragraph, consistent with any averaging period specified for averaging the results of the monitoring.
- **"Exceedance" shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

The first submittal shall coincide with the second report required by Condition E2-1(a) of this permit and cover the same period of operation covered by the first two reports required under Condition E2-1(a) of this permit. Subsequent certifications shall be submitted within 60 days after the end of each 12-month period following the first certification:

These certifications shall be submitted to: Tennessee Division of Air Pollution Control TN APCD and EPA

**The Technical Secretary
Division of Air Pollution Control
ATTN: Operating Permits Program
9th Floor, L & C Annex
401 Church Street
Nashville, Tennessee 37243-1531**

and

**Air and EPCRA Enforcement Branch
US EPA Region IV
61 Forsyth Street, SW
Atlanta, Georgia 30303**

40 CFR Part 70.6(c)(5)(iii) as amended in the Federal Register Vol.62, No.204, October 22, 1997, pages 54946 and 54947

In addition, the facility shall submit to the Technical Secretary by January 31 of each year the compliance certification required by TAPCR paragraph 1200-3-32-.03(3) (adherence to the submitted accidental release plan for facilities subject to Section 112(r) of the federal Clean Air Act).

E3. Source List

The Saturn facility includes the following emission sources:

ESRN NO.	EMISSION SOURCE DESCRIPTION	BUSINESS UNIT
12	Pattern Making for Lost Foam Casting	Powertrain
13	Iron Melting	Powertrain
14/26	Aluminum Melter/Holder Furnaces, Melting, Holding, and Pouring	Powertrain
18	Iron Casting Finishing and Shot Blasting	Powertrain
19	Aluminum Die Casting	Powertrain
20	Aluminum Lost Foam Sand System	Powertrain
21	Iron Lost Foam Sand System and Pouring	Powertrain
22	Sand Storage Silos	Powertrain
24	Aluminum Head and Block Mold Shakeout	Powertrain
25	Iron Mold Shakeout	Powertrain
28	Lost Foam Heat Treating	Powertrain
30	Parts Cleaning	Powertrain
31	Heat Treat Shot Peening	Powertrain
51	Aluminum Head and Block Mold Cooling	Powertrain
52	Iron Mold Cooling	Powertrain
53	Aluminum Head and Block Line Plastic Shot Blasting	Powertrain
54	Maintenance and Tool Room Welding, Steam Cleaning Booth	Powertrain
55	Engine & Transmission Machining	Powertrain
57	Endo Gas Generators for Heat-Treating Gears & Shafts	Powertrain
58	10 Ten Heat Treat/Oil Quench Furnaces for Gears & Shafts	Powertrain
60	On-Line Robotic RTV Application	Powertrain
64	Maintenance Grinding	Powertrain
99	(2) Natural Gas Fired Boilers	Powertrain
11	New Powertrain Machining Line	Powertrain
03	New Engine Assembly Line	Powertrain
06	Body Fabrication	Body Systems
32	Space Frame and Sheet Metal E-Coat System	Body Systems
33	Major Panel Topcoat Operations	Body Systems
36	Major Panel Prime System	Body Systems
37/39	Fascia/ Reprocess Topcoat (Basecoat & Clearcoat)	Body Systems
67/38	Fascia/ Service Parts Prime	Body Systems
35/40	Space Frame Underbody PVC/Seam Seal Application/Blackout	Body Systems
41	Miscellaneous Operations	Body Systems
65	Fascia Adhesion Promoter Spray Booth	Body Systems
98	Hot Water Heaters	Body Systems
08	Panel Coat (Adhesive)	Vehicle Systems
09	Instrument Panel Foaming	Vehicle Systems
45	Etch/Prime Black Glass Application	Vehicle Systems
49	Car Start, Roll Test, Toe-Set and Repair Operations	Vehicle Systems
50	Combined Final Assembly Repair	Vehicle Systems
66	Door Seal Adhesive Operation	Vehicle Systems
10	New Final Assembly Line	Vehicle Systems
01	Site-Wide Products of Combustion	N/A

E4 Prevention of Significant Deterioration

E4-1 The level of performance and emissions unit control technologies inherent in the PALs specified in E5 of this permit are identified in Tables 1, 2, 3, and 4 of Attachment 1. Saturn must continue to use the control technology identified in Tables 1, 2, 3, and 4 of Attachment 1 and reflected in E5, or alternative control technology (including pollution prevention and alternative configurations) agreed to by TDEC. Compliance for each emissions unit is determined solely by the PALs specified in E5 of this permit. Provided compliance with the PALs specified in E5 is demonstrated, Saturn is in compliance with all Tennessee and Federal minor and major new source review requirements for emission sources covered by this permit.

E5 Plantwide Applicability Limits

E5-1 VOC emissions shall not exceed the plantwide applicability limit (PAL) that corresponds to the production levels identified below:

Production Rate^a (vehicles/year)	Allowable VOC Emissions^b (tons/year)
up to 300,000	1134
300,000 to 400,000	1319
400,000 to 500,000	1502
greater than 500,000	1563

^a Production measured as finished vehicles exiting the final assembly operation.

^b Allowable emissions as expressed on a rolling 12-month total basis.

E5-2 The monthly site VOC emission rate is the sum of the actual monthly VOC emission rates from existing emissions units at the facility.

E5-3 Individual monthly VOC emission rates shall be compiled for existing sources at the facility using the methodology described in Table 1 of Attachment 1 of this permit or as identified in any registration provided to TDEC for sources added since June 6, 2000.

E5-4 VOC emissions from the Saturn integrated vehicle manufacturing facility shall be limited to 198.5 tons/month.

E5-5 Compliance with the VOC limit specified in Condition E5-4 of this permit shall be determined within 30 days of the end of each calendar month.

E5-6 PM emissions shall not exceed the PAL of 205 tons per year.

E5-7 The monthly site PM emission rate is the sum of the actual monthly PM emission rates from existing emissions sources at the facility.

E5-8 Individual monthly PM emission rates shall be compiled for existing sources at the facility using the methodology described in Table 2 of Attachment 1 of this permit and for sources added since June 6, 2000 as identified in any registration provided to TDEC.

E5-9 NO_x emissions shall not exceed the PAL of 190 tons per year.

E5-10 The monthly site NO_x emission rate is the sum of the actual monthly NO_x emission rates from existing emissions sources at the facility and for sources added since June 6, 2000 as identified in any registration provided to TDEC.

E5-11 Individual monthly NO_x emission rates shall be compiled for existing sources at the facility using the methodology described in Table 3 of Attachment 1 of this permit and for sources added since June 6, 2000 as identified in any registration provided to TDEC.

E5-12 SO₂ emissions shall not exceed the PAL of 39 tons per year.

E5-13 The monthly site SO₂ emission rate is the sum of the actual monthly SO₂ emission rates from existing emissions sources at the facility and for sources added since June 6, 2000 as identified in any registration provided to TDEC.

E5-14 Individual monthly SO₂ emission rates shall be compiled for existing sources at the facility using the methodology described in Table 3 of Attachment 1 of this permit and for sources added since June 6, 2000 as identified in any registration provided to TDEC.

E5-15 CO emissions shall not exceed the PAL of 220 tons per year.

E5-16 The monthly site CO emission rate is the sum of the actual monthly CO emission rates from existing emissions sources at the facility and for sources added since June 6, 2000 as identified in any registration provided to TDEC.

E5-17 Individual monthly CO emission rates shall be compiled for existing sources at the facility using the methodology described in Table 4 of Attachment 1 of this permit and for sources added since June 6, 2000 as identified in any registration provided to TDEC.

E5-18 Compliance with all PAL ton per year limits shall be based on rolling 12-month emission rates and shall be determined for each pollutant on a monthly basis within 30 days of the end of each calendar month by adding the current month's actual emission rate to the actual emission rates calculated for the preceding 11 months.

E5-19 Natural gas shall be the only fuel burned in stationary emissions sources.

E5-20 The PAL for each regulated pollutant shall be periodically reviewed and adjusted, if warranted, under the following circumstances:

- a) Within 180 days after achieving a 12-month total vehicle production level of 595,350 vehicles, TDEC will revise the permit to reset the VOC and PM₁₀ PALs specified in Conditions E5-1 and E5-6 of this permit to levels consistent with the actual facility emission rates achieved during the same 12-month period, provided that the reset levels: (1) do not exceed the PALs specified in Condition E5-1 and E5-6 of this permit (except in accordance with E5-22); (2) plus an added operating margin equivalent to the major modification threshold for each pollutant as identified in Table 5 of Attachment 1 of this permit; and (3) include all VOC and PM₁₀ associated with products of combustion of natural gas. The effective date of the reset PALs will be 45 days after issuance of the revised permit. Upon the effective date of the revised permit under E5-20, the PALs specified in Conditions E5-1 and E5-6 of this permit will no longer apply. The effective date of the reset PALs will be 45 days after issuance of the revised permit. The PALs associated with gaseous product of combustion emissions (ESRN 01 Site-wide Products of Combustion) are not subject to readjustment.
- b) New regulatory requirements become applicable to the facility during the term of the permit.
- c) Changes in sampling, monitoring, or other similar procedures that impact reported emissions without changing actual emission rates.

E5-21 Adjustments to reflect new applicable requirements will be made through a permit revision in the following manner:

- a) The PAL will be adjusted as of the compliance date of the new applicable requirement.
- b) The reduction in the PAL level will reflect the impact the new applicable requirement would have had on the emissions sources affected by the applicable requirement.
- c) The initial compliance date for meeting reset PALs under E5-20 and any adjusted PAL under E5-21 will be the first 12 months following the effective date of the reset or adjusted PAL.

E5-22 Saturn shall not construct new emission sources or modify existing emission sources such that any PALs identified in E5 of this permit are exceeded unless this permit is revised in accordance with Chapter 1200-3-9 (Construction and Operating Permits) of the Tennessee Air Pollution Control Regulations for the new or modified source that will require increasing a PAL.

E6 PAL Renewal and Termination

E6-1 The E5 PALs expire on June 6, 2010 unless an application to renew the PALs has been filed by Saturn with TDEC 180 days prior to June 6, 2010. PALs adjusted under E5 will remain in effect until June 6, 2010. The terms and conditions of this permit will remain in effect until TDEC takes final action on an application for renewal.

E6-2 At any time during the term specified in E6-1, Saturn may request that TDEC terminate the E5 PALs and associated flexibility provisions of this permit and issue a revised permit pursuant to E6-3 within 180 days of such request.

E6-3 In the event of a termination, the PAL limits and associated flexibility provisions shall remain in effect until this permit is revised to specify unit specific control technology, emission limits and compliance determination requirements agreed upon by Saturn and TDEC. The revised permit shall be issued with "traditional" New Source Review emission limits and other conditions consistent with such requirements for similar emission sources at the time of the modification or construction of each affected Saturn source.

Emission sources existing as of June 6, 2000 that have not been modified as of the termination date shall revert to any previously applicable source specific technology-based requirements (i.e., BACT).

E6-4 In the event of the termination of any PAL in this permit, the requirements under TDEC §1200-3-9 "Construction and Operating Permits" will apply to any modification occurring after the termination.

E7 Pre-approved New Source Review

E7-1 For existing facility emission sources, except the emission sources identified in E8-4, Saturn is authorized to undertake any physical change or change in the method of operation, provided that the emissions from the facility do not exceed emissions limitations in E5 of this permit and Saturn continues to use the control technology inherent in the E5 PALs and identified in Tables 1, 2, 3, and 4 of Attachment 1, the BACT or mBACT controls for emission sources added since June 6, 2000, or alternative control technology (including pollution prevention and alternative configurations) agreed to by TDEC.

E7-2 For emissions sources identified in E8-4, Saturn is authorized to undertake any physical change or change in the method of operation provided that the change is not a reconstruction under 40 CFR §63.2, the emissions from the facility do not exceed the emission limitations in E5 of this permit and Saturn continues to use the control technology inherent in the E5 PALs and identified in Tables 1, 2, 3, and 4 of Attachment 1, the BACT or mBACT controls for emissions sources added since June 6, 2000, or alternative control technology (including pollution prevention and alternative configurations) agreed to by TDEC.

E7-3 For each physical change or change in the method of operation to emissions sources identified in E8-4, Saturn shall prepare documentation to demonstrate that the fixed capital cost of the new components do not exceed 50 percent of the fixed capital cost that would be required to construct a comparable new source, as defined in 40 CFR §63.2. The required documentation shall be retained on file for five years.

E7-2 Saturn can undertake the addition of new emission sources provided that PAL emission levels are not exceeded and the following additional conditions are met:

- a) The new emissions source is not considered a new affected source or a reconstructed source subject to a standard under 40 CFR Part 63.
- b) New emission sources with a PTE greater than the ton per year levels identified in Table 5 of Attachment 1 of this permit shall be registered with TDEC and shall apply best available control technology (BACT), as approved by TDEC.
- c) New emission sources with a potential to emit (PTE) less than the ton per year levels identified in Table 5 of Attachment 1 of this permit shall be registered with TDEC and shall apply minor source best available control technology (mBACT), as approved by TDEC.
- d) The registration under (b) or (c) above shall include appropriate application forms, a brief process description, documentation to demonstrate that the new emissions source is not a new or reconstructed source subject to a standard under 40 CFR Part 63, as required, documentation of BACT or mBACT and periodic monitoring parameters for any air pollution control equipment.
- e) TDEC must approve or deny the BACT analyses within 45 days of the registration date. TDEC must approve or deny the mBACT analysis within 30 days of the registration date. The Technical Secretary will provide public notice of such changes as part of the Title V administrative amendment process.
- f) Upon installation, a new source shall become an existing source for purposes of this permit only.
- g) Initial compliance testing, as required, shall be conducted within 180 days of start-up or on a schedule approved by TDEC and shall be conducted in accordance with Conditions E-9(a) through (c).

E7-5 Saturn can undertake the addition of new emission sources that are new affected sources or reconstructed sources subject to a standard under 40 CFR Part 63 provided that PAL emission levels are not exceeded and the following additional conditions are met:

- a) New emission sources with a PTE greater than the ton per year levels identified in Table 5 of Attachment 1 of this permit shall be registered with TDEC and shall apply best available control technology (BACT), as approved by TDEC.
- b) New emission sources with a potential to emit (PTE) less than the ton per year levels identified in Table 5 of Attachment 1 of this permit shall be registered with TDEC and shall apply minor source best available control technology (mBACT), as approved by TDEC.
- c) The registration required under (a) or (b) above shall include appropriate application forms, a brief process description, documentation of BACT or mBACT as required and periodic monitoring parameters for any air pollution control equipment.
- d) The registration required under (a) or (b) above shall include additional documentation necessary to meet the requirements of 40 CFR §63.5 including an identification of the relevant standard, the expected date of the beginning of actual construction or reconstruction, the expected completion date of the construction or reconstruction, the type and

quantity of hazardous air pollutants emitted by the source reported in units consistent with the applicable 40 CFR Part 63 standard, technical, process, control device, and discharge point information.

- e) TDEC must approve or deny the registration required under (a) or (b) above within 45 days of the registration date. The Technical Secretary will provide public notice of such changes as part of the Title V administrative permit amendment process.
- f) Upon installation, a new source shall become an existing source for purposes of this permit only.
- g) Initial compliance testing, as required, shall be conducted within 180 days of start-up or on a schedule approved by TDEC and shall be conducted in accordance with the applicable Part 63 subpart or Conditions E-9(a) through (c).

E7-6 mBACT is defined as any combination of work practices, raw material specifications, source design characteristics, or air pollution control devices for new emissions units that are typical of the emission level achieved by well controlled new or modified sources similar in type and size to the new emissions unit.

E7-7 The application of mBACT shall ensure that the new source meets all applicable air quality emissions standards and other emission limits as appropriate.

E7-8 Emissions from any new source (excluding minor sources) shall not cause or contribute to an exceedance of any National Ambient Air Quality Standard (NAAQS) or Prevention of Significant Deterioration (PSD) increment.

E8 Other Provisions

E8-1 Saturn is subject to the requirements contained in the applicable provisions of 40 CFR Part 60, Subpart MM – Standards of Performance for Automotive and Light Duty Truck Surface Coating Operations, and compliance with these requirements is assured by compliance with the PALs specified in E5 of this permit. Saturn must keep records to demonstrate compliance with the applicable Subpart MM requirements. Saturn emissions units are subject to 40 CFR Part 60 and the associated limits include:

- a) E-coat (ESRN 32): 1.33 pounds of VOC per gallon of applied solids using the applicable transfer efficiency identified in 40 CFR 60.393.
- b) Major Panel Topcoat (ESRN 33): 12.26 pounds of VOC per gallon of applied solids using the applicable transfer efficiency identified in 40 CFR 60.393.
- c) Major Panel Primer (ESRN 36): 11.67 pounds of VOC per gallon of applied solids using the transfer efficiency identified in 40 CFR 60.393.

E8-2 Saturn is subject to the applicable requirements in the Tennessee State Implementation Plan (SIP) and compliance with these requirements is assured by the PALs specified in E5 of this permit.

E8-3 Within 12 months of EPA approval of Tennessee's SIP revision incorporating any new federal PAL regulations and in no case later than 2 years after their promulgation, TDEC and Saturn will complete a review of the facility's title V operating permit for consistency with the applicable Tennessee or federal PAL regulations. Should TDEC find that the title V permit is inconsistent with the applicable Tennessee or federal PAL regulations, the permit will be re-opened and the PAL conditions revised, after the opportunity for public review and comment, to reflect either the Tennessee or federal PAL requirements.

E8-4 The following existing emissions sources at Saturn are subject to 40 CFR Part 63, Subpart IIII – National Emissions Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light Duty Trucks:

- a) Space Frame and Sheet Metal E-coat (ESRN 32)
- b) Major Panel Topcoat Operations (ESRN 33)
- c) Major Panel Prime System (ESRN 36)
- d) Fascia Adhesion Promoter (ESRN 65)
- e) Fascia/Reprocess Topcoat (ESRN 37/39)
- f) Fascia/Service Parts Prime (ESRN 67/38)
- g) Miscellaneous Operations (ESRN 41)
- h) Space Frame Underbody PVC/Seam Seal/Blackout (ESRN 35/40)
- i) Combined Final Assembly Repair (ESRN 50)
- j) Etch/Prime Black Glass Application (ESRN 45)

E8-5 The Paint Shop Hot Water Heaters (ESRN 99) at Saturn are subject to 40 CFR Part 63, Subpart DDDDD – National Emissions Standards for Boilers and Process heaters:

- a) There are no numerical limits applicable to the ESRN 99 Paint Shop Hot Water Heaters under 40 CFR Part 63, Subpart DDDDD.

E8-6 After April 26, 2007, the following standards apply to the existing emissions sources at Saturn that are defined in E8-4:

- a) Combined organic HAP emissions from Space Frame and Sheet Metal E-coat, Major Panel Prime System, Major Panel Topcoat Operations, Fascia Adhesion Promoter, Fascia/Service Parts Prime, Fascia/Reprocess Topcoat, Combined Final Assembly Repair and Etch/Prime Black Glass Application are limited to 0.60 lbs. HAP /gal of coating solids deposited during each month.
- b) Average organic HAP emissions from all adhesive and sealer materials (other than materials used in Etch/Prime Black Glass Application (ESRN 45) are limited to 0.010 lb HAP/lb of adhesive and sealer used each month.

E9 Performance/Emission Testing Requirements

E9-1 Performance and emission testing of emissions sources subject to EPA Publication 450/3-88-018, *Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light Duty Truck Topcoat Operations*, 40 CFR Part 60 - Subpart MM, 40 CFR Part 63 – Subpart IIII or any other applicable regulation promulgated under 40 CFR Parts 60 and 63 shall be conducted in accordance with the requirements of the applicable subparts.

E9-2 Saturn shall use EPA Reference Method 25A; Determination of Total Gaseous Organic Concentration using a Flame Ionization Analyzer to conduct any required VOC control efficiency tests under this permit.

E9-3 Unless specified otherwise, the emission test methods described in 40 CFR Part 60, Appendix A – Test Methods and 40 CFR Part 63, Appendix A – Test Methods shall be the preferred methods for the conduct of any required emissions testing program.

E10 Pollution Control Devices

For emissions units that rely on a pollution control device or device(s) to maintain compliance with an applicable air quality requirement, Saturn shall monitor the performance of such units consistent with the pollution control device monitoring protocols included in Attachment 2.

E11 Material Usage Rates

E11-1 For all emissions units that rely upon material usage rates to determine emission rates (excluding units subject to EPA Publication 450/3-88-018, *Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light Duty Truck Topcoat Operation (NSPS Protocol)* recordkeeping), Saturn shall monitor material usage on a monthly (or equivalent) basis. The net usage of any given material shall be used to calculate the monthly emission rate (e.g., net usage excludes off specification material, waste material, etc. that can be documented).

E11-2 Actual material usage rates shall be used in conjunction with actual material parameters (i.e., % VOC, % solids, etc.) to calculate emissions from the following emissions units for the pollutants identified:

- a) ESRN 03 - New Engine Assembly Line (VOC)
- b) ESRN 12 - Pattern Making for Lost Foam Casting (VOC)
- c) ESRN 30 - Parts Cleaning (VOC)
- d) ESRN 60 - Existing On-Line Robotic RTV Application (VOC)
- e) ESRN 32 - Space Frame and Sheet Metal Electrocoat (E- coat) System (VOC)
- f) ESRN 35/40 - Space Frame Underbody PVC/Seam Seal Application/Blackout (VOC)
- g) ESRN 41 - Miscellaneous Operations (VOC)
- h) ESRN 65 - Fascia Adhesion Promoter Spray Booth (VOC, PM)
- i) ESRN 08 - Panel Coat (Adhesive) (VOC, PM)
- j) ESRN 10 - New Final Assembly Line (VOC)
- k) ESRN 45 - Existing Etch/Prime Black Glass Application (VOC)
- l) ESRN 50 - Combined Final Assembly Repair (VOC, PM)
- m) ESRN 66 - Door Seal Adhesive Operation (VOC)

E11-3 For emissions units that rely upon material parameters (e.g., % solids, % VOC, etc.) to determine emission rates (excluding units subject to NSPS Protocol recordkeeping), Saturn may use material parameters as obtained from material suppliers data (e.g., material safety data sheets, technical data sheets, etc.) as the basis for determining actual emission rates.

E11-4 Actual material parameters (e.g., % VOC, % solids, etc.) shall be used in conjunction with actual material usage rates to calculate emissions from the following emissions units for the pollutants identified:

- a) ESRN 03 - New Engine Assembly Line (VOC)
- b) ESRN 12 - Pattern Making for Lost Foam Casting (VOC)
- c) ESRN 30 - Parts Cleaning (VOC)
- d) ESRN 60 - Existing On-Line Robotic RTV Application (VOC)
- e) ESRN 33 - Major Panel Topcoat Operations (PM)
- f) ESRN 36 - Major Panel Prime System (PM)
- g) ESRN 37/39 - Fascia Reprocess/Topcoat (Basecoat & Clearcoat) (PM)
- h) ESRN 38/67 - Fascia/Prime Service Parts Prime System (PM)
- i) ESRN 35/40 - Space Frame Underbody PVC/Seam Seal Application/Blackout (VOC, PM)
- j) ESRN 41 - Miscellaneous Operations (VOC)
- k) ESRN 65 - Fascia Adhesion Promoter Spray Booth (VOC, PM)
- l) ESRN 08 - Panel Coat (Adhesive) (VOC, PM)
- m) ESRN 10 - New Final Assembly Line (VOC)
- n) ESRN 45 - Existing Etch/Prime Black Glass Application (VOC)
- o) ESRN 50 - Combined Final Assembly Repair (VOC, PM)
- p) ESRN 66 - Door Seal Adhesive Operation (VOC)

E11-5 For emissions units that utilize NSPS Protocol recordkeeping as part of the paint shop recordkeeping program, Saturn shall monitor material usage rates as prescribed by the NSPS Protocol.

E11-6 Actual material usage rates and their parameters (e.g., % VOC, % solids, etc.) as prescribed by the NSPS Protocol are to be used to calculate emissions from the following emissions units for the pollutants identified:

- a) ESRN 33 - Major Panel Topcoat Operations (VOC)
- b) ESRN 36 - Major Panel Prime System (VOC)
- c) ESRN 37/39 - Fascia Reprocess/Topcoat (Basecoat & Clearcoat) (VOC)
- d) ESRN 38/67 - Fascia/Prime Service Parts Prime System (VOC)

E12 Hours of Operation

E12-1 For emissions units that rely on actual operating hours to calculate actual emissions, Saturn shall monitor and record actual operating hours of such equipment on a monthly basis. Operating hours shall reflect only the time periods that the equipment is producing or processing vehicles or vehicle components. Actual operating hours may reflect total business unit operating hours as long as individual emission unit operating hours do not exceed business unit operating hours in any given month.

E12-2 Actual operating hours shall be used in conjunction with the emissions factors identified in Table 2 of Attachment 1 to calculate emissions from the following emissions units for the pollutants identified:

- a) ESRN 11 – New Machining Operations (PM)
- b) ESRN 13 – Iron Melting (PM)
- c) ESRN 14/26 – Aluminum Melter/Holder Furnace, Melting, Holding, and Pouring (PM)
- d) ESRN 18 – Iron Casting Finishing and Shot Blasting (PM)
- e) ESRN 19 – Aluminum Die Casting (PM)
- f) ESRN 20 – Aluminum Lost Foam Sand System (PM)
- g) ESRN 21 – Iron Lost Foam Sand System and Pouring (PM)
- h) ESRN 22 – Sand Storage Silos (PM)
- i) ESRN 24 – Aluminum Head and Block Mold Shakeout (PM)
- j) ESRN 25 – Iron Mold Shakeout (PM)
- k) ESRN 31 – Heat Treat Shot Peening (PM)
- l) ESRN 51 – Aluminum Head and Block Mold Cooling (PM)
- m) ESRN 52 – Iron Mold Cooling (PM)
- n) ESRN 53 – Aluminum Head and Block Line Plastic Shot Blasting (PM)
- o) ESRN 54 – Maintenance and Tool Room Welding, Steam Cleaning Booth (PM)
- p) ESRN 55 – Engine and Transmission Machining (PM)
- q) ESRN 64 – Maintenance Grinding (PM)

E13 Production Rates

E13-1 For emissions units using process specific production rates to calculate actual emissions, Saturn shall monitor and record actual process throughput of such equipment on a monthly basis in units compatible with the applicable emission factor. Production rates shall reflect gross production rates unless specified otherwise.

E13-2 Actual process throughput rates shall be used in conjunction with the emissions factors identified in Tables 1 through 4 of Attachment 1 to calculate emissions from the following emissions units for the pollutants identified:

- a) ESRN 10 – New Final Assembly Line (CO)
- b) ESRN 13 – Iron Melting (VOC)
- c) ESRN 14/26 – Aluminum Melter/Holder Furnaces, Melting, Holding, and Pouring(VOC)
- d) ESRN 20 – Aluminum Lost Foam Sand System (VOC)
- e) ESRN 21 – Iron Lost Foam Sand System and Pouring (VOC)
- f) ESRN 24 – Aluminum Head and Block Mold Shakeout (VOC)
- g) ESRN 58 – 10 Heat Treat/Oil Quench Furnaces for Gears and Shafts (CO)
- h) ESRN 25 – Iron Mold Shakeout (VOC)
- i) ESRN 45 – Existing Car Start, Roll Test, Toe Set, and Repair Operations (CO)
- j) ESRN 51 – Aluminum Head and Block Mold Cooling (VOC)
- k) ESRN 52 – Iron Mold Cooling (VOC)

E14 Fuel Usage Rates

E14-1 For product of combustion emissions, Saturn shall monitor and record natural gas usage by business unit on a monthly basis.

E14-2 For the purpose of this permit, Saturn business units are defined as Body Systems (body panels, body fabrication, and paint shop operations), Vehicle Systems (vehicle interior systems and final assembly operations), and Powertrain.

E14-3 Saturn shall use the sum of the metered monthly business unit natural gas usage and emission factors from AP-42, Supplement D (7/98), Section 1.4 - Natural Gas Combustion, Table 1.4-1 (small boilers <100MMBtu/hr) for NO_x (100 lbs NO_x/MMCF) and CO (84 lbs CO/MMCF) and Table 1.4-2 for SO_x (0.6 lbs SO_x/MMCF), VOC (5.5 lbs VOC/MMCF), and PM₁₀ (7.6 lbs PM₁₀/MMCF).

E15 Supplementary Conditions

E15-1 A plan to assess the emissions of toxic, volatile pollutants was submitted to TDEC by Saturn prior to June 6, 2002.

E15-2 Aspects of the assessment plan, submitted to TDEC prior to June 6, 2002 that are mutually agreed upon by Saturn and TDEC will be implemented by Saturn within 12 months following the renewal date of the facility's initial Title V operating permit.

E15-3 By submitting a plan to assess the emissions of toxic, volatile pollutants from the facility to TDEC prior to June 6, 2002, Saturn has met the toxic assessment of E15 of this permit. The results of the assessment shall not be used as a measure of compliance.

E16 Opacity Limits

Visible emissions from the sources at this facility shall not exceed the opacity limits stated in the table below. Visible emissions shall be determined by EPA Method 9, as published in the Federal Register, Volume 39, Number 219 on November 12, 1974 (6 minute average). The facility shall demonstrate compliance with the opacity requirements by using the "Opacity Matrix Decision Tree for Visible Emission Evaluation Method 9" dated June 18, 1996 that is enclosed as attachment 3. *If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.*

ESRN NO.	EMISSIONS UNIT DESCRIPTION	OPACITY LIMIT	BUSINESS UNIT
12	Patternmaking for Lost Foam Casting ^b	10%	Powertrain
13	Iron Melting	10%	Powertrain
14/26	Aluminum Melter/Holder Furnaces, Melting, Holding,	10%	Powertrain
19	Aluminum Die Casting	10%	Powertrain
20	Aluminum Lost Foam Sand System	10%	Powertrain
21	Iron Lost Foam Sand System and Pouring	10%	Powertrain
24	Aluminum Head and Block Mold Shakeout	10%	Powertrain
25	Iron Mold Shakeout	10%	Powertrain
28	Lost Foam Heat Treating	10%	Powertrain
30	Parts Cleaning ^b	10%	Powertrain
31	Heat Treat Shot Peening	10%	Powertrain
51	Aluminum Head and Block Mold Cooling	10%	Powertrain
52	Iron Mold Cooling	10%	Powertrain
53	Aluminum Head and Block Line Plastic Shot Blasting	10%	Powertrain
54	Maintenance and Tool Room Welding, Steam Cleaning	10%	Powertrain
55	Engine & Transmission Machining	20%	Powertrain
57	Endo Gas Generators for Heat-Treating Gears & Shafts	10%	Powertrain
58	10 Ten Heat Treat/Oil Quench Furnaces for Gears &	20%	Powertrain
60	On-Line Robotic RTV Application ^b	20%	Powertrain
64	Maintenance Grinding	10%	Powertrain
99	(2) Natural Gas Fired Boilers	10%	Powertrain
11	New Powertrain Machining Line	10%	Powertrain
03	New Engine Assembly Line ^b	10%	Powertrain
06	Body Fabrication	10%	Body Systems
32	Space Frame and Sheet Metal E-Coat System	20%	Body Systems
33	Major Panel Topcoat Operations	20%	Body Systems
36	Major Panel Prime System	20%	Body Systems
37/39	Fascia/ Reprocess Topcoat (Basecoat & Clearcoat)	20%	Body Systems
67/38	Fascia/ Service Parts Prime	20%	Body Systems
35/40	Space Frame Underbody PVC/Seam Seal	20%	Body Systems
41	Miscellaneous Operations ^b	20%	Body Systems
65	Fascia Adhesion Promoter Spray Booth	20%	Body Systems
98	Hot Water Heaters	20%	Body Systems
08	Panel Coat (Adhesive)	20%	Vehicle Systems
09	Instrument Panel Foaming ^b	10%	Vehicle Systems
45	Etch/Prime Black Glass Application ^b	20%	Vehicle Systems
49	Car Start, Roll Test, Toe-Set and Repair Operations	20%	Vehicle Systems
50	Combined Final Assembly Repair	20%	Vehicle Systems
66	Door Seal Adhesive Operation ^b	20%	Vehicle Systems
10	New Final Assembly Line	20%	Vehicle Systems
01	Site-Wide Products of Combustion	20%	N/A

^bThis unit does not emit TSP or PM₁₀.

ATTACHMENT 1

DRAFT

Table 1
Summary of VOC Emissions Sources, Control Technology Requirements,
And Proposed Emission Rate Calculation Methods

ESRN NO.	EMISSION SOURCE DESCRIPTION	AIR POLLUTION CONTROL DEVICE DESCRIPTION	PROPOSED CALCULATION METHOD
01	Site-Wide Products of Combustion	Use of Natural Gas, Good combustion control	Monthly production related natural gas consumption records and use of emission factors from AP-42, Supplement D (7/98), Section 1.4 - Natural Gas Combustion, Table 1.4-1 (small boilers <100MMBtu/hr) for NO _x (100 lbs NO _x /MMCF) and CO (84 lbs CO/MMCF) and Table 1.4-2 for SO _x (0.6 lbs SO _x /MMCF), VOC (5.5 lbs VOC/MMCF), and PM ₁₀ (7.6 lbs PM ₁₀ /MMCF).
03	New Engine Assembly Line	No Control	Monthly material usage records and VOC content of materials
11	New Machining Operations	N/A	N/A
12	Pattern Making for Lost Foam Casting	No Control	Monthly material usage records and VOC content of materials
13	Iron Melting	No Control	Monthly production records and factors derived from source specific testing
14/26	Aluminum Melter/Holder Furnaces, Melting, Holding, and Pouring	No Control	Monthly production records and factors derived from source specific testing
18	Iron Casting Finishing and Shot Blasting	N/A	N/A
19	Aluminum Die Casting	N/A	N/A
20	Aluminum Lost Foam Sand System	No Control	Monthly production records and factors derived from source specific testing
21	Iron Lost Foam Sand System and Pouring	No Control	Monthly production records and factors derived from source specific testing
22	Sand Storage Silos	N/A	N/A
24	Aluminum Head and Block Mold Shakeout	Regenerative Thermal Oxidizer	Monthly production records and factors derived from source specific testing
25	Iron Mold Shakeout	Regenerative Thermal Oxidizer	Monthly production records and factors derived from source specific testing
28	Lost Foam Heat Treating	N/A	N/A
30	Parts Cleaning	No Control	Monthly material usage records and VOC content of materials
31	Heat Treat Shot Peening	N/A	N/A
51	Aluminum Head and Block Mold Cooling	No Control	Monthly production records and factors derived from source specific testing
52	Iron Mold Cooling	No Control	Monthly production records and factors derived from source specific testing
53	Aluminum Head and Block Line Plastic Shot Blasting	N/A	N/A
54	Maintenance and Tool Room Welding, Steam Cleaning Booth	N/A	N/A
55	Existing Engine & Transmission Machining	N/A	N/A
57	Endo Gas Generators for Heat-Treating Gears & Shafts	N/A	N/A
58	10 Ten Heat Treat/Oil Quench Furnaces for Gears & Shafts	N/A	N/A
60	Existing On-Line Robotic RTV Application	No Control	Monthly material usage records and VOC content of materials
64	Maintenance Grinding	N/A	N/A
99	(2) Natural Gas Fired Boilers	N/A	N/A

Notes:

- (1) Emission factors specified above may be modified only by conducting a site-specific emission-testing program for the subject emission source(s).
 (2) N/A means that the referenced emission source is not known to emit the subject pollutant.

Table 1 (cont.)
Summary of VOC Emissions Sources, Control Technology Requirements,
And Proposed Emission Rate Calculation
Methods

ESRN NO.	EMISSION SOURCE DESCRIPTION	AIR POLLUTION CONTROL DEVICE DESCRIPTION	PROPOSED CALCULATION METHOD
32	Space Frame and Sheet Metal E-Coat System	Curing Oven Exhaust: Recuperative Thermal Oxidizer	Monthly material usage records in accordance with NSPS Protocol recordkeeping requirements and use of Saturn's paint shop recordkeeping system to calculate monthly mass emission rates
33	Major Panel Topcoat Operations	Curing Oven Exhaust: Recuperative Thermal Oxidizer Clearcoat Spray Zones: Carbon Abatement System Basecoat Heated Flash Zones: Carbon Abatement System	Monthly material usage records in accordance with NSPS Protocol recordkeeping requirements and use of Saturn's paint shop recordkeeping system to calculate monthly mass emission rates
36	Major Panel Prime System	Curing Oven Exhaust: Recuperative Thermal Oxidizer	Monthly material usage records in accordance with NSPS Protocol recordkeeping requirements and use of Saturn's paint shop recordkeeping system to calculate monthly mass emission rates
37/39	Fascia Reprocess/Topcoat (Basecoat & Clearcoat)	Curing Oven Exhaust: Recuperative Thermal Oxidizer Clearcoat Spray Zones: Carbon Abatement System Basecoat Heated Flash Zones: Carbon Abatement System	Monthly material usage records in accordance with NSPS Protocol recordkeeping requirements and use of Saturn's paint shop recordkeeping system to calculate monthly mass emission rates
38/67	Fascia/Prime Service Parts Prime System	Curing Oven Exhaust: Recuperative Thermal Oxidizer	Monthly material usage records in accordance with NSPS Protocol recordkeeping requirements and use of Saturn's paint shop recordkeeping system to calculate monthly mass emission rates
35/40	Space Frame Underbody PVC/Seam Seal Application/Blackout and Oven	Curing Oven Exhaust: Recuperative Thermal Oxidizer	Monthly material usage records and VOC content of materials
41	Miscellaneous Operations	Purge Solvent Recovery System	Monthly material usage records and VOC content of materials
65	Fascia Adhesion Promoter Spray Booth	No control	Monthly material usage records and VOC content of materials
98	Hot Water Heaters	N/A	N/A
08	Panel Coat (Adhesive)	No Control	Monthly material usage records and VOC content of materials
10	New Final Assembly Line	No Control	Monthly material usage records and VOC content of materials and Monthly vehicle production and a lb/vehicle emission factor based on AP-42 Volume II: Mobile Sources, pending 5th edition Last updated: November 24, 2000, Appendix H, Light duty gasoline vehicles
45	Existing Etch/Prime Black Glass Application	No Control	Monthly material usage records and VOC content of materials
49	Existing Car Start, Roll Test, Toe-Set and Repair	No Control	Monthly vehicle production and a lb/vehicle emission factor based on AP-42 Volume II: Mobile Sources, pending 5th edition Last updated: November 24, 2000, Appendix H, Light duty gasoline vehicles
50	Combined Final Assembly Repair	No Control	Monthly material usage records and VOC content of materials
66	Door Seal Adhesive Operation	No Control	Monthly material usage records and VOC content of materials

Notes:

- (1) Emission factors specified above may be modified only by conducting a site-specific emission-testing program for the subject emissions source(s).
 (2) N/A means that the referenced emissions source is not known to emit the subject pollutant.

Table 2
Summary of PM Emissions Sources, Control Technology Requirements,
And Emission Rate Calculation
Methods

ESRN NO.	EMISSIONS SOURCE DESCRIPTION	AIR POLLUTION CONTROL DEVICE DESCRIPTION	PROPOSED CALCULATION METHOD
1	Site-Wide Products of Combustion	Use of Natural Gas, Good Combustion Control	Monthly production related natural gas consumption records and use of emission factors from AP-42, Supplement D (7/98), Section 1.4 - Natural Gas Combustion, Table 1.4-1 (small boilers <100MMBtu/hr) for NO _x (100 lbs NO _x /MMCF) and CO (84 lbs CO/MMCF) and Table 1.4-2 for SO _x (0.6 lbs SO _x /MMCF), VOC (5.5 lbs VOC/MMCF), and PM ₁₀ (7.6 lbs PM ₁₀ /MMCF).
3	New Engine Assembly Line	N/A	N/A
11	New Machining Operations	Wet Machining: 4-Stage High Efficiency Mist Eliminators Dry Machining: Cartridge Filtration	Hours of operation and PM emission factor (3.45 lb./hr).
12	Pattern Making for Lost Foam Casting	N/A	N/A
13	Iron Melting	Cartridge Filtration	Hours of operation and PM emission factor (4.20 lb./hr)
14/26	Aluminum Melter/Holder Furnaces, Melting, Holding, and Pouring	Cartridge Filtration	Hours of operation and PM emission factor (4.75 lb./hr)
18	Iron Casting Finishing and Shot Blasting	Cartridge Filtration	Hours of operation and PM emission factor (0.55 lb./hr)
19	Aluminum Die Casting	No Control	Hours of operation and PM emission factor (4.11 lb./hr)
20	Aluminum Lost Foam Sand System	Cartridge Filtration	Hours of operation and PM emission factor (7.80 lb./hr)
21	Iron Lost Foam Sand System and Pouring	Cartridge Filtration	Hours of operation and PM emission factor (2.45 lb./hr)
22	Sand Storage Silos	Cartridge Filtration	Hours of operation and PM emission factor (1.20 lb./hr)
24	Aluminum Head and Block Mold Shakeout	Cartridge Filtration	Hours of operation and PM emission factor (2.30 lb./hr)
25	Iron Mold Shakeout	Cartridge Filtration	Hours of operation and PM emission factor (1.17 lb./hr)
28	Lost Foam Heat Treating	No Control	Included in products of combustion
30	Parts Cleaning	N/A	N/A
31	Heat Treat Shot Peening	Cartridge Filtration	Hours of operation and PM emission factor (0.35 lb./hr)
51	Aluminum Head and Block Mold Cooling	No Control	Hours of operation and PM emission factor (0.51 lb./hr)
52	Iron Mold Cooling	No Control	Hours of operation and PM emission factor (0.30 lb./hr)
53	Aluminum Head and Block Line Plastic Shot Blasting	Cartridge Filtration	Hours of operation and PM emission factor (2.21 lb./hr)
54	Maintenance and Tool Room Welding, Steam Cleaning Booth	No Control	Estimated Hours of operation and PM emission factor (1.40 lb./hr)
55	Existing Engine & Transmission Machining	Wet Machining: 3-Stage High Efficiency Mist Eliminators Dry Machining: Cartridge Filtration	Hours of operation and PM emission factor (5.52 lb./hr)
57	Endo Gas Generators for Heat-Treating Gears & Shafts	No control	Included in products of combustion
58	10 Ten Heat Treat/Oil Quench Furnaces for Gears & Shafts	No control	Included in products of combustion
60	Existing On-Line Robotic RTV Application	N/A	N/A
64	Maintenance Grinding	Cartridge Filtration	Estimated Hours of operation and e PM emission factor (0.60 lb./hr)
99	(2) Natural Gas Fired Boilers	No control	Included in products of combustion

Notes:

- (1) Emission factors specified above may be modified only by conducting a site-specific emission-testing program for the subject emissions source(s).
- (2) N/A means that the referenced emissions source is not known to emit the subject pollutant.

Table 2 (cont.)
Summary of PM Emissions Sources, Control Technology Requirements,
And Emission Rate Calculation
Methods

ESRN NO.	EMISSIONS SOURCE DESCRIPTION	AIR POLLUTION CONTROL DEVICE DESCRIPTION	PROPOSED CALCULATION METHOD
32	Space Frame and Sheet Metal E-Coat System	No Control	PM emissions from combustion of natural gas in oven and oven oxidizers, included in site-wide products of combustion.
33	Major Panel Topcoat Operations	Waterwash Venturi	Monthly material usage records in accordance with NSPS Protocol recordkeeping requirements, calculate mass solids overspray using TE and coating solids content, apply control efficiency of waterwash and carbon system filtration (if applicable)
36	Major Panel Prime System	Waterwash Venturi	Monthly material usage records in accordance with NSPS Protocol recordkeeping requirements, calculate mass solids overspray using TE and coating solids content, apply control efficiency of waterwash and carbon system filtration (if applicable)
37/39	Fascia Reprocess/Topcoat (Basecoat & Clearcoat)	Waterwash Venturi	Monthly material usage records in accordance with NSPS Protocol recordkeeping requirements, calculate mass solids overspray using TE and coating solids content, apply control efficiency of waterwash and carbon system filtration (if applicable)
38/67	Fascia/Prime Service Parts Prime System	Waterwash Venturi	Monthly material usage records in accordance with NSPS Protocol recordkeeping requirements, calculate mass solids overspray using TE and coating solids content, apply control efficiency of waterwash and carbon system filtration (if applicable)
35/40	Space Frame Underbody PVC/Seam Seal Application/Blackout and Oven	Dry Filtration Waterwash Venturi	Monthly material usage records, calculate mass solids overspray using TE and coating solids content, apply control efficiency of dry filters.
41	Miscellaneous Operations	N/A	N/A
65	Fascia Adhesion Promoter Spray Booth	Waterwash Venturi	Monthly material usage records, calculate mass solids overspray using TE and coating solids content, apply control efficiency of waterwash.
98	Hot Water Heaters	No Control	Included in products of combustion
08	Combined Panel Coat (Adhesive)	Dry Filtration	Monthly material usage records, calculate mass solids overspray using TE and coating solids content, apply control efficiency of dry filters.
10	New Final Assembly Line	N/A	N/A
45	Existing Etch/Prime Black Glass Application	N/A	N/A
49	Existing Car Start, Roll Test, Toe-Set and Repair	N/A	N/A
50	Combined Final Assembly Repair	Dry Filtration	Monthly material usage records, calculate mass solids overspray using TE and coating solids content, apply control efficiency of dry filters.
66	Door Seal Adhesive Operation	N/A	N/A

Notes:

- (1) Emission factors specified above may be modified only by conducting a site-specific emission-testing program for the subject emissions source(s).
 (2) N/A means that the referenced emissions source is not known to emit the subject pollutant.

Table 3
Summary of NO_x/SO₂ Emissions Sources, Control Technology Requirements,
and Emission Rate Calculation
Methods

ESRN NO.	EMISSIONS SOURCE DESCRIPTION	AIR POLLUTION CONTROL DEVICE DESCRIPTION	PROPOSED CALCULATION METHOD
1	Site-Wide Products of Combustion	Use of Natural Gas Good Combustion Control	Monthly production related natural gas consumption records and use of emission factors from AP-42, Supplement D (7/98), Section 1.4 - Natural Gas Combustion, Table 1.4-1 (small boilers <100MMBtu/hr) for NO _x (100 lbs NO _x /MMCF) and CO (84 lbs CO/MMCF) and Table 1.4-2 for SO _x (0.6 lbs SO _x /MMCF), VOC (5.5 lbs VOC/MMCF), and PM ₁₀ (7.6 lbs PM ₁₀ /MMCF).
3	New Engine Assembly Line	N/A	N/A
11	New Machining Operations	N/A	N/A
12	Pattern Making for Lost Foam Casting	N/A	N/A
13	Iron Melting	N/A	N/A
14/26	Aluminum Melter/Holder Furnaces, Melting, Holding, and Pouring	Use of Natural Gas Good Combustion Control	Included in products of combustion
18	Iron Casting Finishing and Shot Blasting	N/A	N/A
19	Aluminum Die Casting	N/A	N/A
20	Aluminum Lost Foam Sand System	N/A	N/A
21	Iron Lost Foam Sand System and Pouring	N/A	N/A
22	Sand Storage Silos	N/A	N/A
24	Aluminum Head and Block Mold Shakeout	Use of Natural Gas Good Combustion Control	Included in products of combustion
25	Iron Mold Shakeout	Use of Natural Gas Good Combustion Control	Included in products of combustion
28	Lost Foam Heat Treating	Use of Natural Gas Good Combustion Control	Included in products of combustion
30	Parts Cleaning	N/A	N/A
31	Heat Treat Shot Peening	N/A	N/A
51	Aluminum Head and Block Mold Cooling	N/A	N/A
52	Iron Mold Cooling	N/A	N/A
53	Aluminum Head and Block Line Plastic Shot Blasting	N/A	N/A
54	Maintenance and Tool Room Welding, Steam Cleaning Booth	N/A	N/A
55	Existing Engine & Transmission Machining	N/A	N/A
57	Endo Gas Generators for Heat-Treating Gears & Shafts	Use of Natural Gas Good Combustion Control	Included in products of combustion
58	10 Ten Heat Treat/Oil Quench Furnaces for Gears & Shafts	Use of Natural Gas Good Combustion Control	Included in products of combustion
60	Existing On-Line Robotic RTV Application	N/A	N/A
64	Maintenance Grinding	N/A	N/A
99	(2) Natural Gas Fired Boilers	Use of Natural Gas Good Combustion Control	Included in products of combustion

Notes:

- (1) Emission factors specified above may be modified only by conducting a site-specific emission-testing program for the subject emissions source(s).
 (2) N/A means that the referenced emissions source is not known to emit the subject pollutant.

Table 3 (cont.)
Summary of NO_x/SO₂ Emissions Sources, Control Technology Requirements,
and Emission Rate Calculation
Methods

ESRN NO.	EMISSIONS SOURCE DESCRIPTION	AIR POLLUTION CONTROL DEVICE DESCRIPTION	PROPOSED CALCULATION METHOD
32	Space Frame and Sheet Metal E-Coat System	Use of Natural Gas Good Combustion Control	Included in products of combustion
33	Major Panel Topcoat Operations	Use of Natural Gas Good Combustion Control	Included in products of combustion
36	Major Panel Prime System	Use of Natural Gas Good Combustion Control	Included in products of combustion
37/39	Fascia Reprocess/Topcoat (Basecoat & Clearcoat)	Use of Natural Gas Good Combustion Control	Included in products of combustion
38/67	Fascia/Prime Service Parts Prime System	Use of Natural Gas Good Combustion Control	Included in products of combustion
35/40	Space Frame Underbody PVC/Seam Seal Application/Blackout and Oven	Use of Natural Gas Good Combustion Control	Included in products of combustion
41	Miscellaneous Operations	N/A	N/A
65	Fascia Adhesion Promoter Spray Booth	Use of Natural Gas Good Combustion Control	Included in products of combustion
98	Hot Water Heaters	Use of Natural Gas Good Combustion Control	Included in products of combustion
08	Combined Panel Coat (Adhesive)	Use of Natural Gas Good Combustion Control	Included in products of combustion
10	New Final Assembly Line	No control	Monthly vehicle production and a lb/vehicle emission factor based on AP-42 Volume II: Mobile Sources, pending 5th edition Last updated: November 24, 2000, Appendix H, Light duty gasoline vehicles
45	Existing Etch/Prime Black Glass Application	N/A	N/A
49	Existing Car Start, Roll Test, Toe-Set and Repair Operations	No control	Monthly vehicle production and a lb/vehicle emission factor based on AP-42 Volume II: Mobile Sources, pending 5th edition Last updated: November 24, 2000, Appendix H, Light duty gasoline vehicles
66	Door Seal Adhesive Operation	N/A	N/A
50	Combined Final Assembly Repair	Use of Natural Gas Good Combustion Control	Included in products of combustion

Notes:

- (1) Emission factors specified above may be modified only by conducting a site-specific emission-testing program for the subject emissions source(s).
 (2) N/A means that the referenced emissions source is not known to emit the subject pollutant.

Table 4
Summary of CO Emissions Sources, Control Technology Requirements,
and Emission Rate Calculation
Methods

ESRN NO.	EMISSIONS SOURCE DESCRIPTION	AIR POLLUTION CONTROL DEVICE DESCRIPTION	PROPOSED CALCULATION METHOD
1	Site-Wide Products of Combustion	Use of Natural Gas Good Combustion Control	Monthly production related natural gas consumption records and use of emission factors from AP-42, Supplement D (7/98), Section 1.4 - Natural Gas Combustion, Table 1.4-1 (small boilers <100MMBtu/hr) for NO _x (100 lbs NO _x /MMCF) and CO (84 lbs CO/MMCF) and Table 1.4-2 for SO _x (0.6 lbs SO _x /MMCF), VOC (5.5 lbs VOC/MMCF), and PM ₁₀ (7.6 lbs PM ₁₀ /MMCF).
3	New Engine Assembly Line	N/A	N/A
11	New Machining Operations	N/A	N/A
12	Pattern Making for Lost Foam Casting	N/A	N/A
13	Iron Melting	N/A	N/A
14/26	Aluminum Melter/Holder Furnaces, Melting, Holding, and Pouring	Use of Natural Gas Good Combustion Control	Included in products of combustion
18	Iron Casting Finishing and Shot Blasting	N/A	N/A
19	Aluminum Die Casting	N/A	N/A
20	Aluminum Lost Foam Sand System	N/A	N/A
21	Iron Lost Foam Sand System and Pouring	N/A	N/A
22	Sand Storage Silos	N/A	N/A
24	Aluminum Head and Block Mold Shakeout	Use of Natural Gas Good Combustion Control	Included in products of combustion
25	Iron Mold Shakeout	Use of Natural Gas Good Combustion Control	Included in products of combustion
28	Lost Foam Heat Treating	Use of Natural Gas Good Combustion Control	Included in products of combustion
30	Parts Cleaning	N/A	N/A
31	Heat Treat Shot Peening	N/A	N/A
51	Aluminum Head and Block Mold Cooling	N/A	N/A
52	Iron Mold Cooling	N/A	N/A
53	Aluminum Head and Block Line Plastic Shot Blasting	N/A	N/A
54	Maintenance and Tool Room Welding, Steam Cleaning Booth	N/A	N/A
55	Existing Engine & Transmission Machining	N/A	N/A
57	Endo Gas Generators for Heat-Treating Gears & Shafts	Use of Natural Gas Good Combustion Control	Included in products of combustion
58	10 Ten Heat Treat/Oil Quench Furnaces for Gears & Shafts	Use of Natural Gas Good Combustion Control	Actual ft ³ of Endo (CO) gas generated converted to a mass rate
60	Existing On-Line Robotic RTV Application	N/A	N/A
64	Maintenance Grinding	N/A	N/A
99	(2) Natural Gas Fired Boilers	Use of Natural Gas Good Combustion Control	Included in products of combustion

Notes:

- (1) Emission factors specified above may be modified only by conducting a site-specific emission-testing program for the subject emissions source(s).
 (2) N/A means that the referenced emissions source is not known to emit the subject pollutant.

Table 4 (cont.)
Summary of CO Emissions Sources, Control Technology Requirements,
and Emission Rate Calculation
Methods

ESRN NO.	EMISSIONS SOURCE DESCRIPTION	AIR POLLUTION CONTROL DEVICE DESCRIPTION	PROPOSED CALCULATION METHOD
32	Space Frame and Sheet Metal E-Coat System	Use of Natural Gas Good Combustion Control	Included in products of combustion
33	Major Panel Topcoat Operations	Use of Natural Gas Good Combustion Control	Included in products of combustion
36	Major Panel Prime System	Use of Natural Gas Good Combustion Control	Included in products of combustion
37/39	Fascia Reprocess/Topcoat (Basecoat & Clearcoat)	Use of Natural Gas Good Combustion Control	Included in products of combustion
38/67	Fascia/Prime Service Parts Prime System	Use of Natural Gas Good Combustion Control	Included in products of combustion
35/40	Space Frame Underbody PVC/Seam Seal Application/Blackout and Oven	Use of Natural Gas Good Combustion Control	Included in products of combustion
41	Miscellaneous Operations	N/A	N/A
65	Fascia Adhesion Promoter Spray Booth	Use of Natural Gas Good Combustion Control	Included in products of combustion
98	Hot Water Heaters	Use of Natural Gas Good Combustion Control	Included in products of combustion
08	Combined Panel Coat (Adhesive)	Use of Natural Gas Good Combustion Control	Included in products of combustion
10	New Final Assembly Line	No Control	Monthly vehicle production and a lb/vehicle emission factor based on AP-42 Volume II: Mobile Sources, pending 5th edition Last updated: November 24, 2000, Appendix H, Light duty gasoline vehicles
45	Existing Etch/Prime Black Glass Application	N/A	N/A
49	Existing Car Start, Roll Test, Toe-Set and Repair Operations	No Control	Monthly vehicle production and a lb/vehicle emission factor based on AP-42 Volume II: Mobile Sources, pending 5th edition Last updated: November 24, 2000, Appendix H, Light duty gasoline vehicles
66	Door Seal Adhesive Operation	N/A	N/A
50	Combined Final Assembly Repair	Use of Natural Gas Good Combustion Control	Included in products of combustion

Notes:

- (1) Emission factors specified above may be modified only by conducting a site-specific emission-testing program for the subject emissions source(s).
(2) N/A means that the referenced emissions unit is not known to emit the subject pollutant.

Table 5
Best Available Control Technology Thresholds for
New Sources Added Under the PAL

Pollutant	PTE Threshold, tons/year
VOC	40
PM	15
NO _x	40
CO	100

ATTACHMENT 2

DRAFT

ATTACHMENT 2A
FABRIC/CARTRIDGE FILTER MONITORING PROTOCOL

DRAFT

A. FABRIC/CARTRIDGE COLLECTOR MONITORING PROTOCOL

A.1 Emissions Units

The following Saturn emissions units utilize dry cartridge filtration to abate PM/PM₁₀ from aluminum and iron melting, casting finishing and related operations:

- ESRN 11 – New Machining Operations
- ESRN 13 – Iron Melting (including ESRN 22 iron sand silo)
- ESRN 14/26 – Aluminum Melter/Holder Furnaces, Melting, Holding and Pouring (including ESRN 22 aluminum sand silo)
- ESRN 20 – Aluminum Lost Foam Sand System
- ESRN 21 – Iron Lost Foam Sand System (including ESRN 18 stack)
- ESRN 24 – Aluminum Head and Block Mold Shakeout
- ESRN 25 –Iron Mold Shakeout
- ESRN 31 – Heat Treat Shot Peening
- ESRN 53 – Aluminum Head and Block Line Plastic Shot Blasting
- ESRN 55 – Existing Engine &Transmission Machining
- ESRN 64 – Maintenance Grinding

A.2 Monitoring Approach

The key elements of the monitoring approach and performance criteria are presented below.

<i>Indicator</i>	<i>Pressure Drop</i>
Measurement Approach	Pressure drop across the cartridge filter will be measured with a magnehelic gauge, or equivalent
Minimum Reading	0.2 inches w.g.
Monitoring Frequency	Pressure drop will be measured and displayed continuously during operation.
Data Collection Procedure	The pressure drop will be manually recorded daily.

A.3 Rationale For Selection Of Performance Indicators

Pressure Drop

Cartridge filters are designed to operate on a continuous basis at a relatively constant pressure drop. Monitoring pressure drop provides a means of detecting a change in operation that could lead to a change in emissions. An increase in pressure drop, other than a gradual and moderate increase over time, can indicate problems with the cleaning performance, filter blinding, or material build-up in the system. A significant decrease in pressure drop could indicate broken bags, loose bags, or loss of air due to blockage or poor fan performance.

A.4 Deviation Plan

The purpose of this deviation plan is to document procedures in the event that the observed pressure differential is judged to be abnormally high or low. Upon observation of an abnormal pressure differential reading, the measurement/recording system will be checked for accuracy. Should the measurement/recording system be determined to be accurate, Saturn will then investigate the operation itself to determine if a malfunction has occurred with the unit. As part of the investigation Saturn will determine if any malfunctions have occurred and whether any repairs or adjustments need to be made. Saturn will document the repairs or actions that are taken to return the system to normal operation. If it is determined that a malfunction has occurred, Saturn will initiate required actions pursuant to Rule1200-3-9-20 of the Tennessee Air Pollution Control regulations.

A.5 Exclusion

In the event that all cartridge filters of any cartridge dust collector are replaced simultaneously, the permittee shall record the date that the complete replacement is made and the daily pressure drop across that particular cartridge collector until the minimum required pressure drop is reached. Once reached, the standard daily recordings shall be made and a report of the time needed to reach the minimum required pressure drop shall be submitted. This report shall be included with the current semiannual period submittal.

ATTACHMENT 2B
OIL MIST ELIMINATOR MONITORING PROTOCOL

DRAFT

B. OIL MIST ELIMINATOR MONITORING PROTOCOL

B.1 Emissions Units

The following Saturn emissions units utilize multistage high efficiency mist eliminators to abate oil mist from machining operations:

- ESRN 11 – New Machining Operations
- ESRN 55 – Existing Engine & Transmission Machining

B.2 Monitoring Approach

The key elements of the monitoring approach and performance criteria are presented below:

<i>Indicator</i>	<i>Mist Eliminator Pressure Drop</i>
Measurement Approach	Pressure drop across the oil mist eliminator will be measured with a magnehelic gauge, or equivalent.
Minimum Reading	0.2 inches w.g.
Monitoring Frequency	Pressure drop will be measured and displayed continuously during operation.
Data Collection Procedure	The pressure drop will be continuously monitored and will be automatically recorded once per operating day at 12:00 noon.

The automated monitoring system consists of two programmable logic controllers (PLCs), a local personal computer (PC), and remote pressure transducers. The pressure transducers monitor the differential pressure of the final HEPA filter stage at each mist collector and send the data to one of the two PLCs. Each PLC, in turn, sends the data to the local area network (LAN) where it is stored in a database, and also to the local PC as a backup storage location. In the case of a communication failure with the network, the data is still being collected locally. The pressure differential readings are recorded hourly. The data is reported as one hourly reading per day per mist collector, at the same time each day (12:00 noon), for the purposes of Title V reporting. There is a real-time monitoring screen, which is accessible through the network, and there are alarms built into the system for the following events:

- Filter changes
- Loss of network communications
- Mist collector turned off
- Differential pressure less than 0.2 in. H₂O

B.3 Rationale For Selection Of Performance Indicators

Mist Eliminator Pressure Drop

The oil mist eliminators at Saturn are designed to operate on a continuous basis at a relatively constant pressure drop. Monitoring pressure drop provides a means of detecting a change in operation that could lead to a change in emissions. An increase in pressure drop, other than a gradual and moderate increase over time, can indicate problems with the cleaning performance, mist eliminator blinding or solid particulate (chips) build-up in the system. A significant decrease in pressure drop could indicate mist eliminator stage problems or loss of air due to blockage or poor fan performance or a ruptured bag or filter.

B.4 Deviation Plan

The purpose of this deviation plan is to document procedures in the event that the observed pressure differential is judged to be abnormally high or low. Upon observation of an abnormal pressure differential reading, the measurement/recording system will be checked for accuracy. Should the measurement/recording system be determined to be accurate, Saturn will then investigate the operation itself to determine if a malfunction has occurred with the unit. As part of the investigation Saturn will determine if any malfunctions have occurred and whether any repairs or adjustments need to be made. Saturn will document the repairs or actions that are taken to return the system to normal operation. If it is determined that a malfunction has occurred, Saturn will initiate required actions pursuant to Rule 1200-3-9-20 of the Tennessee Air Pollution Control regulations.

B.5 Exclusion

In the event that all of the filters of any oil mist eliminator are replaced, the permittee shall record the date that the replacement is made and the daily pressure drop across that oil mist eliminator until the minimum required pressure drop is reached. Once reached, the standard daily recordings shall be made and a report of the time needed to reach the minimum required pressure drop shall be submitted. This report shall be included with the current semiannual period submittal.

ATTACHMENT 2C
POWERTRAIN THERMAL OXIDIZER MONITORING PROTOCOL

DRAFT

C. THERMAL OXIDIZER MONITORING PROTOCOL

C.1 Emissions Units

The following Saturn emissions units utilize thermal oxidizers to abate VOC emissions from Powertrain shakeout operation exhausts:

- ESRN 24 – Aluminum Head and Block Mold Shakeout
- ESRN 25 – Iron Mold Shakeout

C.2 Monitoring Approach

The key elements of the monitoring approach and performance criteria are presented below:

<i>Indicator</i>	<i>Combustion Chamber Temperature</i>
Measurement Approach	The combustion chamber temperature will be monitored with a thermocouple.
Indicator Range	A deviation is defined as any 3-hour period during which the average temperature is more than 50.4°F less than the combustion chamber temperature set point.
Monitoring Frequency	The combustion zone temperature will be monitored continuously during operation.
Data Collection Procedure	Output from the temperature monitoring system will be captured by a data acquisition system and stored. Temperatures in °F will be recorded by the data acquisition system at a minimum of 15-minute intervals.

C.3 Rationale For Selection Of Performance Indicators

Combustion Zone Temperature

The measurement of oxidizer combustion zone temperature was selected since it is indicative of the proper operation of the oxidizer (e.g., combustion occurring within the chamber). Should the combustion chamber temperature decrease significantly, complete combustion may not occur.

Emissions testing of thermal oxidizers, in general, has shown that the VOC destruction efficiency achieved by an oxidizer is influenced by combustion zone temperature. By maintaining the combustion zone temperature at or above a minimum set point, the design level of control for the unit can be expected to be achieved.

The minimum set point is not applicable during periods of system startup, shutdown, malfunction, or periods of time when the processes are not in operation.

The set points for the thermal oxidizers in use at Saturn's powertrain shakeout operations are identified in Table C-1.

Table C-1
Saturn Thermal Oxidizers and Setpoints

Source Number	Description	Setpoint °F	Oxidizer No.	Rationale
ESRN 24	Aluminum Head and Block Mold Shakeout	1500	PTTO1	Vendor guidance, diagnostic testing – EPA RM 25A
ESRN 25	Iron Mold Shakeout	1500	PTTO2	Vendor guidance, diagnostic testing – EPA RM 25A

The oxidizers installed at Saturn were originally designed to achieve a destruction efficiency of 90%. Subsequent diagnostic emission testing of the units confirmed the original design destruction efficiency. Natural gas is added to the inlet stream to enrich the oxidizer inlet concentration and improve the thermal efficiency of the units. The oxidizers also utilize temperature control systems that maintain the desired combustion chamber temperature by using natural gas fired auxiliary burners. The controller for each unit is set at one of two set points; the set point during the initial VOC destruction efficiency testing (where applicable) or the manufacturer's suggested set point for the VOC species and concentrations expected at the oxidizer.

C.4 Deviation Plan

The purpose of this plan is to document procedures in the event of a thermal oxidizer combustion zone temperature record below the applicable lower limit set point for the control device. Upon observation of average oxidizer combustion zone temperature of greater than 50.4 °F less than the low temperature setpoint for the control device, the measurement/recording system will be checked for accuracy. Should the measurement/recording system be determined to be accurate, Saturn will then investigate the operation itself to determine if a malfunction has occurred with the unit. As part of the investigation Saturn will determine if any malfunctions have occurred and whether any repairs or adjustments need to be made.

Saturn will document the repairs or actions that are taken to return the system to normal operation. If it is determined that a malfunction has occurred, Saturn will initiate required actions pursuant to Rule 1200-3-9-20 of the Tennessee Air Pollution Control regulations.

ATTACHMENT 2D
BODY SYSTEMS THERMAL OXIDIZER MONITORING PROTOCOL

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D. THERMAL OXIDIZER MONITORING PROTOCOL

D.1 Emissions Units

The following Saturn emissions units utilize thermal oxidizers to abate VOC emissions from curing oven exhausts:

- ESRN 32 – Space Frame and Sheet Metal E-coat System
- ESRN 33 – Major Panel Topcoat Operations
- ESRN 36 – Major Panel Prime System
- ESRN 37/39 – Fascia/Reprocess Topcoat
- ESRN 38/67 – Fascia/Service Parts Prime System
- ESRN 35/40 – Space Frame Underbody PVC/Seam Seal/Blackout Application

D.2 Monitoring Approach

The key elements of the monitoring approach and performance criteria are presented below:

<i>Indicator</i>	<i>Combustion Chamber Temperature</i>
Measurement Approach	The combustion chamber temperature will be monitored with a thermocouple.
Indicator Range	A deviation is defined as any 3-hour period during which the average temperature is more than 50.4° F less than the average temperature measured during the most recent performance test (where applicable) or the manufacturers suggested set point.
Monitoring Frequency	The combustion zone temperature will be monitored continuously during operation.
Data Collection Procedure	Output from the temperature monitoring system will be captured by a data acquisition system and stored. Average temperatures in °F will be recorded by the data acquisition system at a minimum of 15 minute intervals.

D.3 Rationale For Selection Of Performance Indicators

Combustion Zone Temperature

The measurement of oxidizer combustion zone temperature was selected since it is indicative of the proper operation of the oxidizer (e.g., combustion occurring within the chamber). Should the combustion chamber temperature decrease significantly, complete combustion may not occur.

Emissions testing of thermal oxidizers, in general, has shown that the VOC destruction efficiency achieved by an oxidizer is influenced by combustion zone temperature. By maintaining the combustion zone temperature at or above a minimum set point, the design level of control for the unit can be expected to be achieved.

The minimum set point is not applicable during periods of system startup, shutdown, malfunction, or periods of time when the processes are not in operation.

The set points for the thermal oxidizers in use at Saturn's paint shop are identified in Table D-1.

Table D-1
Saturn Thermal Oxidizers and Setpoints

Source Number	Description	Setpoint °F	Rationale
ESRN 32	Space Frame and Sheet Metal E-coat System	1330	Initial performance testing – EPA RM 25A
ESRN 32	Space Frame and Sheet Metal E-coat System	1330	Initial performance testing – EPA RM 25A
ESRN 33	Major Panel Topcoat	1300	Initial performance testing – EPA RM 25A
ESRN 33	Major Panel Topcoat	1300	Initial performance testing – EPA RM 25A
ESRN 33	Major Panel Topcoat	1300	Initial performance testing – EPA RM 25A
ESRN 35/40	Space Frame Underbody PVC/Seam Seal/Blackout Application	1200	Initial performance testing – EPA RM 25A, vendor guidance
ESRN 35/40	Space Frame Underbody PVC/Seam Seal/Blackout Application	1200	Initial performance testing – EPA RM 25A, vendor guidance
ESRN 36	Major Panel Prime System	1300	Initial performance testing – EPA RM 25A
ESRN 37/39	Fascia/Reprocess Topcoat	1300	Initial performance testing – EPA RM 25A
ESRN 38/67	Fascia/Service Parts Prime System	1300	Initial performance testing – EPA RM 25A
N/A	Carbon Abatement System Oxidizer	1475	Diagnostic testing – EPA RM 25A, vendor guidance

The oxidizers installed at Saturn were originally designed to achieve a destruction efficiency of 90%. Subsequent emission testing of most of the units revealed that actual performance was in excess of 90% destruction efficiency. The oxidizers utilize temperature control systems that maintain the desired combustion chamber temperature by using a natural gas fired auxiliary burner. The controller for each unit is set at one of two set points; the set point during the initial VOC destruction efficiency testing or the manufacturer's suggested set point for the VOC species and concentrations expected at the oxidizer.

D.4 Deviation Plan

The purpose of this plan is to document procedures in the event of a thermal oxidizer combustion zone temperature record below the applicable lower limit set point for the control device. Upon observation of average oxidizer combustion zone temperature of greater than 50.4 °F less than the low temperature setpoint for the control device, the measurement/recording system will be checked for accuracy. Should the measurement/recording system be determined to be accurate, Saturn will then investigate the operation itself to determine if a malfunction has occurred with the unit. As part of the investigation, Saturn will determine if any malfunctions have occurred and whether any repairs or adjustments need to be made.

Saturn will document the repairs or actions that are taken to return the system to normal operation. If it is determined that a malfunction has occurred, Saturn will initiate required actions pursuant to Rule 1200-3-9-20 of the Tennessee Air Pollution Control regulations.

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ATTACHMENT 2E
CARBON ABATEMENT SYSTEM MONITORING PROTOCOL

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E. CARBON ABATEMENT SYSTEM MONITORING PROTOCOL

E.1 Emissions Units

The following Saturn emissions units currently utilize the carbon abatement system to abate VOC emissions from painting operations:

- ESRN 33 – Major Panel Topcoat Operations
- ESRN 37/39 – Fascia/Reprocess Topcoat
- ESRN 41 – Miscellaneous Operations

The carbon abatement system is capable of controlling emissions from alternative emissions units in the paint shop. The system is also capable of operating at total volumetric flowrates of less than 150,000 ACFM based on the number of paint booths in operation since exhaust from booths that are not in a production mode is not routed to the carbon abatement system.

E.2 Monitoring Approach

The key elements of the monitoring approach and performance criteria are presented below:

<i>Indicator</i>	<i>Work Practice</i>	<i>Volumetric Flowrate, Mix Box Temperature, Adsorption Time Desorption Gas Temperature, Desorption Gas Volumetric Flowrate, and Desorption Time</i>
Measurement Approach	Retain records of key system settings. Key system settings are defined in Table E-1.	Monitor and record the above parameters as identified in Table E-2.
Monitoring Frequency	See Table E-1.	Continuous
Data Collection Procedure	See Table E-1.	Outputs from sensors are captured by a data acquisition system and stored.

Table E-1
Key Abatement System Parameters Logged

Parameter	Recording Technique	Frequency	Units	Value
Carbon Specifications	Manual Log Entry ^a	When Replaced	NA	NA
Minimum Carbon Weight	Manual Log Entry ^a	When Replaced	lbs./vessel	35,000
Average ^b Carbon Bed Depth	Manual Log Entry ^a	When Replaced	Inches	18
Maximum Vessel Adsorption Cycle Time	Manual Log Entry ^a	When Changed	Hours	168
Minimum Desorption ^c Cycle Time	Manual Log Entry ^a	When Changed	Minutes	240

^a Logbook entry to include date of change, reason for change, and brief description of impact on the adsorption system.

^b Average of representative carbon bed depth measurements.

^c Desorption cycle time is a general term that includes actual regeneration time, cool down time, quench time, and drying time. A change to any of these is considered a change in cycle time. Minimum desorption cycle times do not apply in the event of an unscheduled or emergency shut down.

Table E-2
Key Abatement System Parameters Continuously Monitored

Parameter	Recording Technique	Frequency	Units	Value
Minimum System Volumetric Flowrate (standard ^a production)	Data Logger	Continuous	ACFM	150,000
Minimum System Volumetric Flowrate (modified ^b production)	Data Logger	Continuous	ACFM	75,000
Maximum Adsorption Time	Data Logger	Continuous	Hours	168
Minimum Desorption Gas Temperature	Data Logger	Continuous	°F	175
Minimum ^c Volumetric Flowrate of Desorption Gas	Data Logger	Continuous	ACFM	7,500
Minimum ^d Desorption Time	Data Logger	Continuous	Minutes	240

^a Minimum Standard production and abatement system operation (two major panel clearcoat booths, fascia clearcoat booth and three heated flash zones in abatement corresponding with booth operation).

^b Modified production and abatement system operation (one major panel clearcoat booth, one fascia clearcoat booth and two heated flash zones in abatement) corresponding with booth operation.

^c Excludes initial "purge" cycle which is typically less than 7,500 ACFM.

^d Desorption cycle time is a general term that includes actual regeneration time, cool down time, quench time, and drying time. Minimum desorption cycle times do not apply in the event of an unscheduled or emergency shut down.

E.3 Rationale For Selection Of Performance Indicators

Adsorption Parameters

Carbon abatement system parameters that will be reviewed and could impact system efficiency include the type of carbon in the system, weight/depth of carbon used, adsorption cycle time, mix box temperature and exhaust system volumetric flowrate. Each of these parameters can impact the ability of the carbon to adsorb VOC from the exhaust stream at desired efficiencies. Maintaining these adsorption parameters within acceptable ranges indicates proper operation of the carbon adsorption system.

Desorption Parameters

Carbon System desorption parameters that will be reviewed and could impact system efficiency include desorption cycle times, desorption gas temperature and volumetric flowrate. Each of these factors can influence the proper desorption of VOC from the carbon. Maintaining these desorption parameters within acceptable ranges indicates proper operation of the desorption system used to regenerate the carbon in the adsorber vessels.

E.4 Deviation Plan

The purpose of this plan is to document procedures in the event that a carbon abatement system parameter is determined to be out of range. Upon observation of an out of range parameter, the measurement/recording system will be checked for accuracy. Should the measurement/recording system be determined to be accurate, Saturn will then investigate the operation itself to determine if a malfunction has occurred with the unit. As part of the investigation, Saturn will determine if any malfunctions have occurred and whether any repairs or adjustments need to be made. Saturn will document the repairs or actions that are taken to return the system to normal operation. If it is determined that a malfunction has occurred, Saturn will initiate required actions pursuant to Rule 1200-3-9-20 of the Tennessee Air Pollution Control regulations.

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ATTACHMENT 2F
WATERWASH PAINT BOOTH MONITORING PROTOCOL

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F. BACKGROUND

F.1 Emissions Units

The following Saturn paint booth emissions units utilize waterwash systems to abate PM/PM₁₀ from spraypaint operations:

- ESRN 33 - Major Panel Topcoat Operations
- ESRN 36 - Major Panel Prime System
- ESRN 37/39 - Fascia Reprocess/Topcoat (Basecoat & Clearcoat)
- ESRN 38/67 - Fascia/Prime Service Parts Prime System
- ESRN 65 - Fascia Adhesion Promoter Spray Booth

Underfloor pressure will be monitored in the following paint booth zones.

<i>Booth</i>	<i>Zone</i>	<i>Panels Painted?</i>
Major Panel Prime	Robot Zone	Yes
Major Panel Topcoat #1	Basecoat Robot Zone	Yes
Major Panel Topcoat #1	Clearcoat Robot Zone	Yes
Major Panel Topcoat #2	Basecoat Robot Zone	Yes
Major Panel Topcoat #2	Clearcoat Robot Zone	Yes
Major Panel Topcoat #3	Basecoat Robot Zone	Yes
Major Panel Topcoat #3	Clearcoat Robot Zone	Yes
Adhesion Promoter	Adhesion Promoter Spray Zone	Yes
Fascia Prime	Prime Spray Zone	Yes
Fascia Topcoat	Basecoat Robot Zone	Yes
Fascia Topcoat	Clearcoat Robot Zone	Yes

F.2 Monitoring Approach

The key elements of the monitoring approach and performance criteria are presented below.

<i>Indicator</i>	<i>Pressure Drop</i>
Measurement Approach	The underfloor pressure of the water wash system serving booth spray zones will be measured with a magnehelic gauge, or equivalent
Minimum Reading	4.0 inches w.g.
Monitoring Frequency	Pressure drop will be measured and displayed continuously during operation.
Data Collection Procedure	The underfloor pressure of the water wash system serving booth spray zones will be observed and manually recorded once daily or automatically monitored continuously. The continuous monitoring will be equipped with alarming mechanisms in the event the pressure falls below the minimum reading.

F.3 Rationale For Selection Of Performance Indicators

Underfloor Pressure

The underfloor pressure is measured between the waterwash and the suction side of the exhaust fan. The waterwash system is designed to operate on a continuous basis at a relatively constant underfloor pressure. Monitoring the underfloor pressure of the water wash system serving booth spray zones provides a means of detecting a change in operation that could lead to a change in emissions. A change in underfloor pressure beyond acceptable ranges can indicate system problems such as excessive/insufficient washwater or material build-up on mist eliminators.

F.4 Deviation Plan

The purpose of this deviation plan is to document procedures in the event that the observed underfloor pressure of the water wash system serving booth spray zones is judged to be abnormally low. Upon observation of an abnormal pressure reading, the measurement/recording system will be checked for accuracy. Should the measurement/recording system be determined to be accurate, Saturn will then investigate the operation itself to determine if a malfunction has occurred with the unit. As part of the investigation, Saturn will determine if any malfunctions have occurred and whether any repairs or adjustments need to be made. Saturn will document the repairs or actions that are taken to return the control system to normal operation. If it is determined that a malfunction has occurred, Saturn will initiate required actions pursuant to Rule1200-3-9-20 of the Tennessee Air Pollution Control regulations.

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ATTACHMENT 2H
DRY PAINT FILTER PROTOCOL

DRAFT

H. BACKGROUND

H.1 Emissions Units

The following Saturn emissions units utilize dry filtration to abate PM/PM₁₀ from paint spray operations:

- ESRN 08 - Combined Panel Coat (Adhesive)
- ESRN 50 -Combined Final Assembly Repair

H.2 Monitoring Approach

The key elements of the monitoring approach and performance criteria are presented below.

<i>Indicator</i>	<i>Pressure Drop</i>
Measurement Approach	Pressure drop across the filter will be measured with a magnehelic gauge, or equivalent.
Minimum Reading	Spoven Filters - 0.2 inches w.g. Repair Spray Booth Filters – 0.2 inches w.g. Door Panel Adhesive Booth Filters – 0.3 inches w.g.
Monitoring Frequency	Pressure drop will be measured and displayed continuously during operation.
Data Collection Procedure	The pressure drop will be observed and manually recorded daily.

H.3 Rationale For Selection Of Performance Indicators

Pressure Drop

Dry filters are designed to operate on a continuous basis at a steadily increasing pressure drop as overspray solids are captured. When the filter is at capacity, it is replaced with a clean filter. Monitoring pressure drop allows Saturn to monitor filter performance and provides a quantitative indicator of the filter status. An abnormally high pressure drop indicates a filter at capacity that could impact the draft within the booth. A significant decrease in pressure drop could indicate broken or loose filters.

H.4 Deviation Plan

The purpose of this deviation plan is to document procedures in the event that the observed pressure differential is judged to be abnormally high or low. Upon observation of an abnormal pressure differential reading the measurement/recording system will be checked for accuracy. Should the measurement/recording system be determined to be accurate, Saturn will then investigate the operation itself to determine if a malfunction has occurred with the unit. As part of the investigation, Saturn will determine if any malfunctions have occurred and whether any repairs or adjustments need to be made. Saturn will document the repairs or actions that are taken to return the system to normal operation. If it is determined that a malfunction has occurred, Saturn will initiate required actions pursuant to Rule1200-3-9-20 of the Tennessee Air Pollution Control regulations.

H.5 Exclusion

In the event that the dry filters of any spray booth are replaced, the permittee shall record the date that the replacement is made and the daily pressure drop across the dry filters until the minimum required pressure drop is reached. Once reached, the standard daily recordings shall be made and a report of the time needed to reach the minimum required pressure drop shall be submitted. This report shall be included with the current semiannual period submittal.

ATTACHMENT 3

**OPACITY MATRIX DECISION TREE for
VISIBLE EMISSION EVALUATION METHOD 9 (JUNE 18, 1996)**

DRAFT

**Decision Tree PM for Opacity for
Sources Utilizing EPA Method 9**

Notes:

PM = Periodic Monitoring
required by 1200-3-9-.02(11)(e)(1)(iii)

This Decision Tree outlines the criteria by which major sources can meet the periodic monitoring and testing requirements of Title V for demonstrating compliance with the visible emissions standards in paragraph 1200-3-5-.01. It is not intended to determine compliance requirements for EPA's Compliance Assurance Monitoring (CAM) Rule (formerly referred to as Enhanced Monitoring - Proposed 40 CFR 64).

Examine each emission source using this Decision Tree to determine PM required.

Use of continuous emission monitoring systems eliminates the need to do any additional periodic monitoring.

Visible Emission Evaluations (VEEs) are to be conducted utilizing EPA Method 9. The observer must be properly certified to conduct valid evaluations.

Typical Pollutants

Particulates, VOC, CO, SO₂, NO_x, HCl, HF, HBr, Ammonia, and Methane

Initial observation to be repeated within 90 days of startup of a modified source if a new construction permit is issued for modification of the source.

A VEE conducted by TDAPC personnel after the Title V permit is issued will also constitute an initial reading.

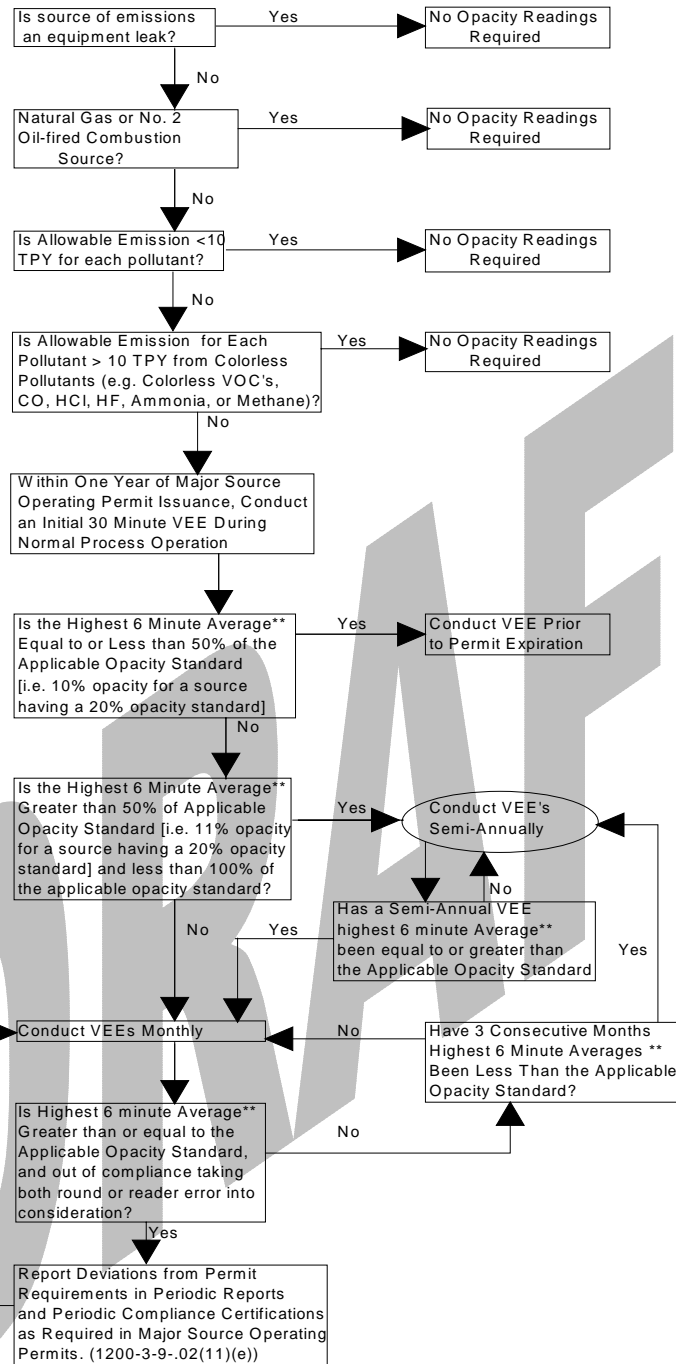
Reader Error

EPA Method 9, Non-NSPS or Neshaps stipulated opacity standards: The TDAPC guidance is to declare non-compliance when the highest six-minute average** exceeds the standard plus 6.8% opacity (e.g. 26.8% for a 20% standard).

EPA Method 9, NSPS or NESHAPS Stipulated Opacity Standards: EPA guidance is to allow only engineering round. No allowance for reader error is given.

*Not Applicable to Asbestos Manufacturing Subject to 40 CFR 61.142

**Or second highest six minute average, if the source has an exemption period stipulated in either the Regulations or in the permit.



ATTACHMENT 4

DRAFT

Non-Applicable Requirements

ESRN No.	State or Federal Regulation	Shield Request for Non-Applicable Sections	Justification
Facility-wide	40 CFR 61 Subpart M 1200-3-11-.02	All sections of Subpart M All sections of 1200-3-11-.02	Saturn does not process or manufacture asbestos containing products and has no asbestos on-site.
Facility-wide	40 CFR 63 Subpart T	All sections of Subpart T	Saturn uses no halogenated solvents listed in Subpart T in the parts washers.
Facility-wide	40 CFR 68	Risk Management Plan submittal requirements	Saturn has no process that contains regulated substances above the threshold quantities for RMP submittal.
Facility-wide	40 CFR 82 Subpart F	All sections of 40 CFR 82 except sections 82.150; 82.154(a)(b)(e)(f); 82.156(a)(i)(5), (i)(6), (i)(9), (i)(10); 82.166(i), (h), (m), (n)	Saturn does not manufacture CFCs. Only sections of the rule related to service and repair of certain CFC containing units are applicable.
Facility-wide	1200-3-18-.29	All sections of 1200-3-18-.29	Saturn does not store regulated substances in tanks greater than 40,000 gallons.
Facility-wide	1200-3-18-.31	All sections of 1200-3-18-.31	Saturn's potential VOC emissions for all solvent metal cleaning is less than 100 tons.
Cooling Towers	40 CFR 63 Subpart Q	All sections of Subpart Q	Saturn does not operate its cooling towers with chromium based water treatment chemicals.

Non-Applicable Requirements

ESRN No.	State or Federal Regulation	Shield Request for Non-Applicable Sections	Justification
All storage tanks in Central Utilities and the Body Systems business units	40 CFR 60 Subparts K, Ka, Kb	All sections of Subparts K, Ka, and Kb	Saturn does not store regulated substances in tanks greater than 10,000 gallons.
98 & 99	40 CFR 60 Subpart Dc	All sections of Subpart Dc	The steam generating units in Body Systems and Powertrain were constructed before the effective date of this regulation and have not been modified or reconstructed.
32, 33, 36, 37/39, 67/38, 65, 35/40	1200-3-18-.11	All sections of 1200-3-18-.11	Saturn is not in any of the counties affected by this regulation.
35/40	1200-3-18-.20	All sections of 1200-3-18-.20	Saturn does not use materials for underbody or anti-chip coatings that are subject to this regulation.
37/39, 67/38, 65, 35/40	40 CFR 60 Subpart MM	All sections of Subpart MM	The blackout, fascia, reprocess, fascia prime, service parts prime and adhesion promoter operations are not regulated under Subpart MM.
14/26	40 CFR Part 63 – Subpart RRR	All Section of Subpart RRR	Federal Register Vol. 65, No. 179, Thursday September 14, 2000 EPA proposed stay of applicability of Subpart RRR to sources in the aluminum foundry and aluminum die casting industries to remove these sources from subpart RRR and to adopt alternative MACT requirements for such sources.

Non-Applicable Requirements

ESRN No.	State or Federal Regulation	Shield Request for Non-Applicable Sections	Justification
Facility-wide	1200-3-18-.06	All Sections	Saturn is not in any of the counties affected by this regulation.
65, 37/39, 67, 38	1200-3-18-.44	All Sections	Saturn is not in any of the counties affected by this regulation.
50	1200-3-8-.45	All Sections	Saturn is not in any of the counties affected by this regulation. OEM facilities are exempt from the rule.
Facility-wide	1200-3-18-.48	All Sections	Saturn is not in any of the counties affected by this regulation.
Facility-wide	1200-3-18-.78	All Sections	Saturn is not in any of the counties affected by this regulation.
Facility-wide	1200-3-18-.79	All Sections	Saturn is not in any of the counties affected by this regulation.
14/26	40 CFR Part 63 – Subpart RRR	All Sections of Subpart RRR	<p>§63.1500(d) – The requirements of Subpart RRR do not apply to manufacturers of aluminum die castings, aluminum foundries, or aluminum extruders that melt no materials other than clean charge and materials generated within the facility, and that also do not operate a thermal chip dryer, sweat furnace or scrap dryer/delaquering kiln/decoating kiln.</p> <p>Saturn uses only clean charge materials and internal runaround.</p>

Non-Applicable Requirements

ESRN No.	State or Federal Regulation	Shield Request for Non-Applicable Sections	Justification
32, 33, 36, 37/39, 67/38, 35/40, 41, 50 & 65	40 CFR Part 63, Subpart MMMM—National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products	All Sections of Subpart MMMM	All potentially affected sources are regulated by 40 CFR Part 63, Subpart IIII – National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light Duty Trucks in accordance with §63.3082(c).
32, 33, 36, 37/39, 67/38, 35/40, 41, 50 & 65	40 CFR Part 63 Subpart PPPP - Surface Coating of Plastic Parts and Products	All Sections of Subpart PPPP	All potentially affected sources are regulated by 40 CFR Part 63, Subpart IIII – National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light Duty Trucks in accordance with §63.3082(c).
32, 33, 36, 37/39, 67/38, 35/40, 41, & 65	40 CFR Part 63, Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters	All Sections of Subpart DDDDD	The curing ovens serving the listed coating operations do not meet the definition of a boiler or process heater
32, 33, 36, 37/39, 67/38, 35/40, 41, & 65	40 CFR Part 63 Subpart EEEE - National Emission Standard for Hazardous Air Pollutants for Non-gasoline Organic Liquid Distribution (OLD) Operations	All Sections of Subpart EEEE	All potentially affected sources are regulated by 40 CFR Part 63, Subpart IIII – National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light Duty Trucks and are therefore not subject to Subpart EEEE

Non-Applicable Requirements

ESRN No.	State or Federal Regulation	Shield Request for Non-Applicable Sections	Justification
Purge solvent storage tank under ESRN 41	40 CFR Part 63 Subpart EEEE - National Emission Standard for Hazardous Air Pollutants for Non-gasoline Organic Liquid Distribution (OLD) Operations	All Sections of Subpart EEEE	Subpart EEEE covers the loading of transport vehicles (i.e., tank trucks) with organic liquid. Although the purge solvent used by Saturn meets the criterion of an organic liquid, bulk deliveries are unloaded into solvent storage tanks from tanker trucks and are therefore not regulated under Subpart EEEE.
Two (2) waste solvent storage tanks under ESRN 41	40 CFR Part 63 Subpart EEEE - National Emission Standard for Hazardous Air Pollutants for Non-gasoline Organic Liquid Distribution (OLD) Operations	All Sections of Subpart EEEE	Subpart EEEE excludes hazardous waste from the definition of organic liquid. The waste solvent periodically loaded into tanker trucks from the wastes solvent storage tanks is a hazardous waste and is therefore not regulated under Subpart EEEE.
One bulk windshield washer fluid storage tank and one automotive coolant bulk storage tank at the CUC complex	40 CFR Part 63 Subpart EEEE - National Emission Standard for Hazardous Air Pollutants for Non-gasoline Organic Liquid Distribution (OLD) Operations	All Sections of Subpart EEEE	The windshield washer fluid and automotive coolant tank both contain organic liquids as defined by subpart EEEE but do not meet the annual vapor pressure criterion of 4 psia for existing tanks of less than 50,000 gallon capacity

Non-Applicable Requirements

ESRN No.	State or Federal Regulation	Shield Request for Non-Applicable Sections	Justification
<u>Two bulk gasoline storage tanks at the CUC complex</u>	<u>40 CFR Part 63 Subpart EEEE - National Emission Standard for Hazardous Air Pollutants for Non-gasoline Organic Liquid Distribution (OLD) Operations</u>	<u>All Sections of Subpart EEEE</u>	<u>Gasoline is excluded from the subpart EEEE definition of organic liquid</u>
<u>11 miscellaneous oil storage tank at the CUC complex</u>	<u>40 CFR Part 63 Subpart EEEE - National Emission Standard for Hazardous Air Pollutants for Non-gasoline Organic Liquid Distribution (OLD) Operations</u>	<u>All Sections of Subpart EEEE</u>	<u>None of the 11 miscellaneous oil storage tanks contain organic liquids as defined by subpart EEEE</u>
<u>9 metalworking fluid storage tanks at the L850 production area – ESRN 11</u>	<u>40 CFR Part 63 Subpart EEEE - National Emission Standard for Hazardous Air Pollutants for Non-gasoline Organic Liquid Distribution (OLD) Operations</u>	<u>All Sections of Subpart EEEE</u>	<u>None of the 9 miscellaneous oil storage tanks contain organic liquids as defined by subpart EEEE</u>
<u>9 curing ovens associated with ESRN 32, 33, 36, 37/39, 67/38, and 35/40</u>	<u>40 CFR Part 63, Subpart DDDDD – National Emissions Standards for Boilers and Process Heaters</u>	<u>All Sections of Subpart DDDDD</u>	<u>The 9 curing ovens do not meet the Subpart DDDDD definition of process heater and they are subject to another subpart under 40 CFR Part 63 (i.e., Subpart IIII)</u>

Non-Applicable Requirements

ESRN No.	State or Federal Regulation	Shield Request for Non-Applicable Sections	Justification
<u>28 & 58</u>	<u>40 CFR Part 63, Subpart DDDDD – National Emissions Standards for Boilers and Process Heaters</u>	<u>All Sections of Subpart DDDDD</u>	<u>The furnaces associated with ESRN 28 and 58 do not meet the Subpart DDDDD definition of process heater</u>
<u>57 & 99</u>	<u>40 CFR Part 63, Subpart DDDDD – National Emissions Standards for Boilers and Process Heaters</u>	<u>All Sections of Subpart DDDDD</u>	<u>The endo gas generator associated with ESRN 57 and the small boilers associated with ESRN 99 have been decommissioned</u>
<u>13, 18, 21, 25, & 52</u>	<u>40 CFR Part 63, Subpart EEEEE - National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries</u>	<u>All Sections of Subpart EEEEE</u>	<u>The iron foundry sources at the facility are currently shut-down</u>